2010300040 -- Winnebago
Smith Oil/ Premium Oil
ILD053191547

RCRA code 5

5E0301-A0102

CERCLA

Preliminary Assessment Report

Illinois Environmental Protection Agency
P.O. Box 19276,
Springfield, IL 62794-9276

Confidential Material May be Enclosed

2010300040 -- Winnebago
Smith Oil/Premium Oil
ILD053191547

Executive Summary

The property upon which Smith Oil Corporation was located is at 1100 Kilburn Avenue, Rockford, Illinois. The site is in the southeast quarter of Section 15, Township 44N, Range 1E, 3rd P.M.

Smith Oil Corporation was a wholely owned subsidiary of Sunmark Industries, a division of Sun Oil Company of Pennsylvania.

Smith Oil Corporation began operations in January, 1911 as a petroleum distributor. As part of their service Smith Oil handled fuel oil, gasoline, industrial oils, greases, solvents, and ran a drum cleaning operation.

On June 6, 1975 Smith Oil was issued a National Pollutant Discharge Elimination System (NPDES) permit by IEPA for wastewater discharges to the North Branch of Kent Creek. This permit (IL0045519) was reissued on September 7, 1979 and later terminated on January 6, 1986.

Smith Oil was issued an IEPA Air Pollution Control permit (73040371) on July 16, 1979. This permit expired on July 16, 1984.

In November, 1980, Smith Oil submitted EPA Form 3510-1. On this form the company stated that they had intentions to, or were currently treating, storing or disposing hazardous waste on-site.

On August 28, 1981, Smith Oil Corporation submitted applications for; a site registration number, permit to develop a Solid Waste Management site, Waste Hauler permit, a operating permit and Form 532-0334. On September 25, 1981 Smith Oil was denied a operating permit, however on February 2, 1982, Smith was issued a permit (#1982-1-DE) to develop a waste management facility. The operating permit (#1982-1-OP) was issued on March 16, 1982.

The oil which Smith Oil reprocessed was a combination of hydraulic oil and machine oil. This oil was picked up by Smith and placed in a on-site storage tank.

The oil was reprocessed by pumping the oil from the outside holding tank, into a 800 gallon tank located inside the blend plant building. Once the oil was in the 800 gallon tank it was heated and then pumped to a 250 gallon tank where the temperature was brought up to 140 degrees F. After the oil reached the desired temperature, it was filtered (5-10 microns) and pumped into a 3,000 gallon storage tank.

The treated oil was tested by centrifuge to determine the amount of moisture and contamination. If the moisture was above trace levels, or if the metal contamination was above 1/2%, the product was rejected. The flash point for the oil was a minimum of 300 degrees F.

The procedures for the drum cleaning operation was to collect the spent barrel wash solution in a stainless steel tank, then lower the pH to 2-3 using concentrated sulfuric acid to destroy the cyanides. The solution was then brought up to a pH of 7 by the addition of anhydrous ammonia or liquid caustic soda. Finally, a coagulant was added to facilitate sludge sedimentation. The clear supernatant was discharged to the Rockford Sanitary District, which required the effluent first meet certain pretreatment standards. The sludge was placed in holding tanks and taken off-site by Browning Ferris Industries.

On December 20, 1982 the Agency received an anonymous complaint concerning Smith Oil. This complaint was transmitted to the Agency through a Rockford newspaper reporter. The complaint alleged that Smith Oil sold trichloroethylene (TCE) in bulk, and this bulk tank leaked for a period of 3 years. The area supposedly was saturated with TCE, with pools of product on the surface. This tank was later emptied and removed, however allegedly TCE is still stored in drums on-site.

The complaint further alleged that waste solvent had been dumped in Kent Creek.

On September 12, 1983 Sun Refining and Marketing Company sold Smith Oil Company to Coil Brothers and Rock Valley Oil and Chemical Company.

On April 6, 1988 the Rockland Park Foundation notified the Agency that they were the owners of property previously utilized by Smith Oil Corporation. This property was the location of the former tank farm.

In 1985 a group of former Smith Oil employees, purchased a portion of the old Smith Oil site and formed the Premium Oil Company. Premium Oil is a distributor of custom blended oil. All oil and additives are purchased new and then mixed on-site and sold to industrial users. All empty drums are sold to Jakacki Bag and Barrel, Inc., Chicago, Illinois, 312/287-6100, and taken off-site.

A Preliminary Assessment Reconnaissance Inspection was conducted on March 24, 1989. Accompanying the CERCLA inspector, was a IEPA, RCRA permit engineer to determine if Premium Oil Company was engaged in activities which would require a RCRA permit. Premium Oil Company is located in a industrial area. Bordering the site to the north is Dean's Food Company, to the south two automotive junk yards, to the east residential property, and to the west the Page Talcott Park.

The North Branch of Kent Creek is located approximately two hundred yards to the west of the Premium Oil Company property. According to a Flood Insurance Study sponsored by the Dept. of Housing and Urban Development, Premium Oil is located beyond the 100 year flood plain.

During the inspection no obvious signs of contamination were noted. The facility was well maintained and no RCRA regulated waste or activities were detected at the Premium Oil site.

Three 55 gallon drums of xylene were in the central storage building, however the facility operator assured us that this material was a special ordered product for a customer and that the company only held these orders on-site for one work week. A review of the company records confirmed this statement.

The geology of the area is characterized by about 300 feet of unconsolidated sediments of sand and gravel that fill a bedrock valley running along the Rock River. The sedimentary rocks are interbedded deposits of sandstone, shale, and dolomite. Three types of aquifers beneath the bedrock valley supply groundwater to the Rockford area. These are: (a) sand and gravel type, (b) dolomite type, and (c) sandstone type.

There are 43 public wells in Rockford (T43N and T44N, R1E and R2E), obtaining most of their groundwater from deep sandstone, sand and gravel aquifers, respectively. Six of those wells have been closed because of contamination. One well (Rockford Group Well #6) is located within one mile of the Premium Oil Company.

This site has been assigned a medium priority based upon the potential presences of contamination at the site and the number and proximity of the surrounding population. A site inspection is recommended.

GR:rd1801k/46-48

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

EPA

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 053191547

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER				
Smith Oil / Premium	1102 Kilburn				
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 COUNTY**	**07 COUNTY CODE**	**08 CONG DIST**
Rockford	IL	61101	Winnebago	201	16
09 COORDINATES LATITUDE: 42°17'10".0	LONGITUDE: 089°06'10".0				

10 DIRECTIONS TO SITE (Starting from nearest public road)

III. RESPONSIBLE PARTIES

01 OWNER (If known)	02 STREET (Business, mailing, residential)		
Richard Fedeli	923 Fairview		
03 CITY	**04 STATE**	**05 ZIP CODE**	**06 TELEPHONE NUMBER**
Rockford	IL	61101	(815) 963-3800
07 OPERATOR (If known and different from owner)	**08 STREET** (Business, mailing, residential)		
Same	Same		
09 CITY	**10 STATE**	**11 ZIP CODE**	**12 TELEPHONE NUMBER**
Same	IL	61101	( ) Same

13 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)
☐ A. RCRA 3001 DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ___/___/___ (MONTH DAY YEAR) ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION
☒ YES ☐ NO DATE 3/24/89 (MONTH DAY YEAR)
BY (Check all that apply)
☐ A. EPA ☐ B. EPA CONTRACTOR ☒ C. STATE ☐ D. OTHER CONTRACTOR
☐ E. LOCAL HEALTH OFFICIAL ☐ F. OTHER: _____ (Specify)
CONTRACTOR NAME(S): _____

02 SITE STATUS (Check one)
☒ A. ACTIVE ☐ B. INACTIVE ☐ C. UNKNOWN

03 YEARS OF OPERATION
January 1911 (BEGINNING YEAR) | Present (ENDING YEAR) ☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED
Solvents (Toxic/Persistant)
Oily Waste (Toxic/Persistant)

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION
Groundwater (Population/Environment)

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incident(s))
☐ A. HIGH (Inspection required promptly) ☒ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☐ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)			03 TELEPHONE NUMBER
Richard Fedeli	Premium Oil Company			(815) 963-3800
04 PERSON RESPONSIBLE FOR ASSESSMENT	**05 AGENCY**	**06 ORGANIZATION**	**07 TELEPHONE NUMBER**	**08 DATE**
Gary L. Reside	IEPA	Pre-Remedial	(217) 782-6760	5/26/89 (MONTH DAY YEAR)

EPA FORM 2070-12 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	053191547

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

A SOLID
B POWDER FINES
C SLUDGE
D OTHER (Specify)
E SLURRY
(F) LIQUID
G GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS
CUBIC YARDS Unknown
NO OF DRUMS

03 WASTE CHARACTERISTICS (Check all that apply)

(A) TOXIC
B CORROSIVE
C RADIOACTIVE
(D) PERSISTENT
(E) SOLUBLE
F INFECTIOUS
(G) FLAMMABLE
(H) IGNITABLE
I HIGHLY VOLATILE
J EXPLOSIVE
K REACTIVE
L INCOMPATIBLE
M NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE	Unknown		
SOL	SOLVENTS	Unknown		
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	Trichloroethylene	79016	Underground Storage	Unknown	Unknown

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS	Unknown	Unknown	FDS	Unknown	Unknown
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references e.g. state files sample analysis reports)

Illinois Environmental Protection Agency, LPC Division File (Part 1+2)
Illinois Municipal Directory (Part 1, Sec 2)
Illinois State Geological Survey 7.5 Topographical Maps (Part 1, Sec 2)
Mr Richard Fedeli (Part 1, Sec 3)
Preliminary Assessment Reconnaissance Inspection (Part 1, Sec IV)

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION
01 STATE: ILD | 02 SITE NUMBER: 053191547

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [X] A. GROUNDWATER CONTAMINATION — 02 [ ] OBSERVED (DATE ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 139,712 — 04 NARRATIVE DESCRIPTION

In December, 1982 the IEPA recieved a complaint that Smith Oil had stored TCE in underground tanks which leaked for a period of three years. Rockford Group Well #6 is located within 1 mile of the site.

01 [X] B. SURFACE WATER CONTAMINATION — 02 [ ] OBSERVED (DATE ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 139,712 — 04 NARRATIVE DESCRIPTION

The North Branch of Kent Creek is located approximately 200 feet to the west of the site. The potential for groundwater from the Smith site carrying contaminates to the creek does exist.

01 [ ] C. CONTAMINATION OF AIR — 02 [ ] OBSERVED (DATE ____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Unknown

01 [ ] D. FIRE/EXPLOSIVE CONDITIONS — 02 [ ] OBSERVED (DATE ____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Unknown

01 [ ] E. DIRECT CONTACT — 02 [ ] OBSERVED (DATE ____) — [ ] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Unknown

01 [X] F. CONTAMINATION OF SOIL — 02 [ ] OBSERVED (DATE ____) — [ ] POTENTIAL — [X] ALLEGED
03 AREA POTENTIALLY AFFECTED: 20 (Acres) — 04 NARRATIVE DESCRIPTION

See A

01 [X] G. DRINKING WATER CONTAMINATION — 02 [ ] OBSERVED (DATE ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 139,712 — 04 NARRATIVE DESCRIPTION

See A

01 [ ] H. WORKER EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE ____) — [ ] POTENTIAL — [ ] ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ____ — 04 NARRATIVE DESCRIPTION

Unknown

01 [X] I. POPULATION EXPOSURE/INJURY — 02 [ ] OBSERVED (DATE ____) — [X] POTENTIAL — [ ] ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 139,712 — 04 NARRATIVE DESCRIPTION

See A

EPA

POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
ILD	053191547

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (Include name(s) of species)

Unknown

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown

01 ☒ M. UNSTABLE CONTAINMENT OF WASTES (Spills, runoff, standing liquids, leaking drums) — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 139,712 — 04 NARRATIVE DESCRIPTION

See A

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

Unknown

01 ☒ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☒ ALLEGED
04 NARRATIVE DESCRIPTION

See A

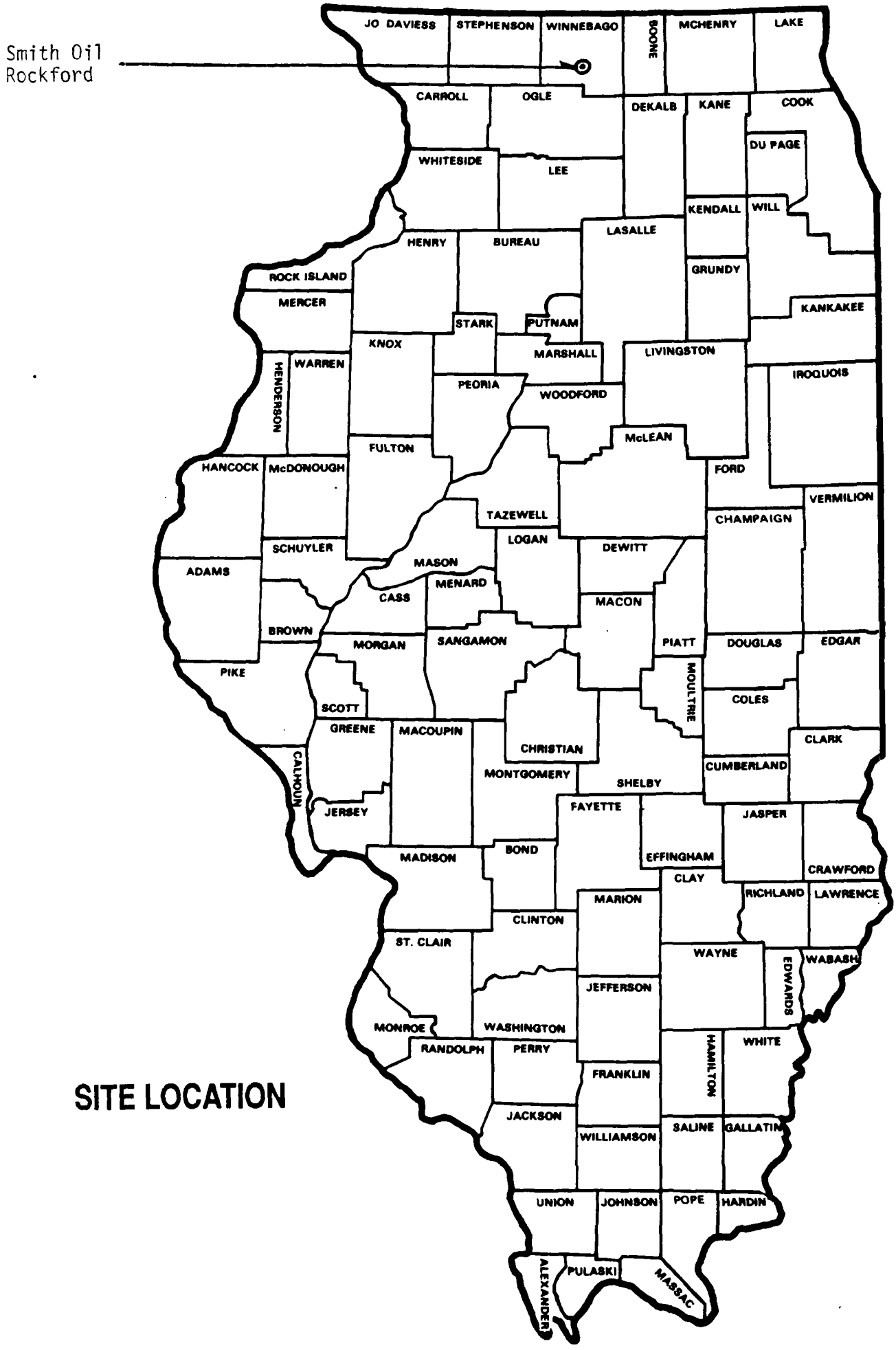
05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: 139,712

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

Illinois Environmental Protection Agency, LPC Division File
Illinois Municipal Directory
Preliminary Assessment Reconnaissance Inspection



SITE LOCATION

SDMS US EPA Region V

Imagery Insert Form

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Specify Type of Document(s) / Comment

OVERSIZE TOPOGRAPHIC MAP

☐ **Other:**

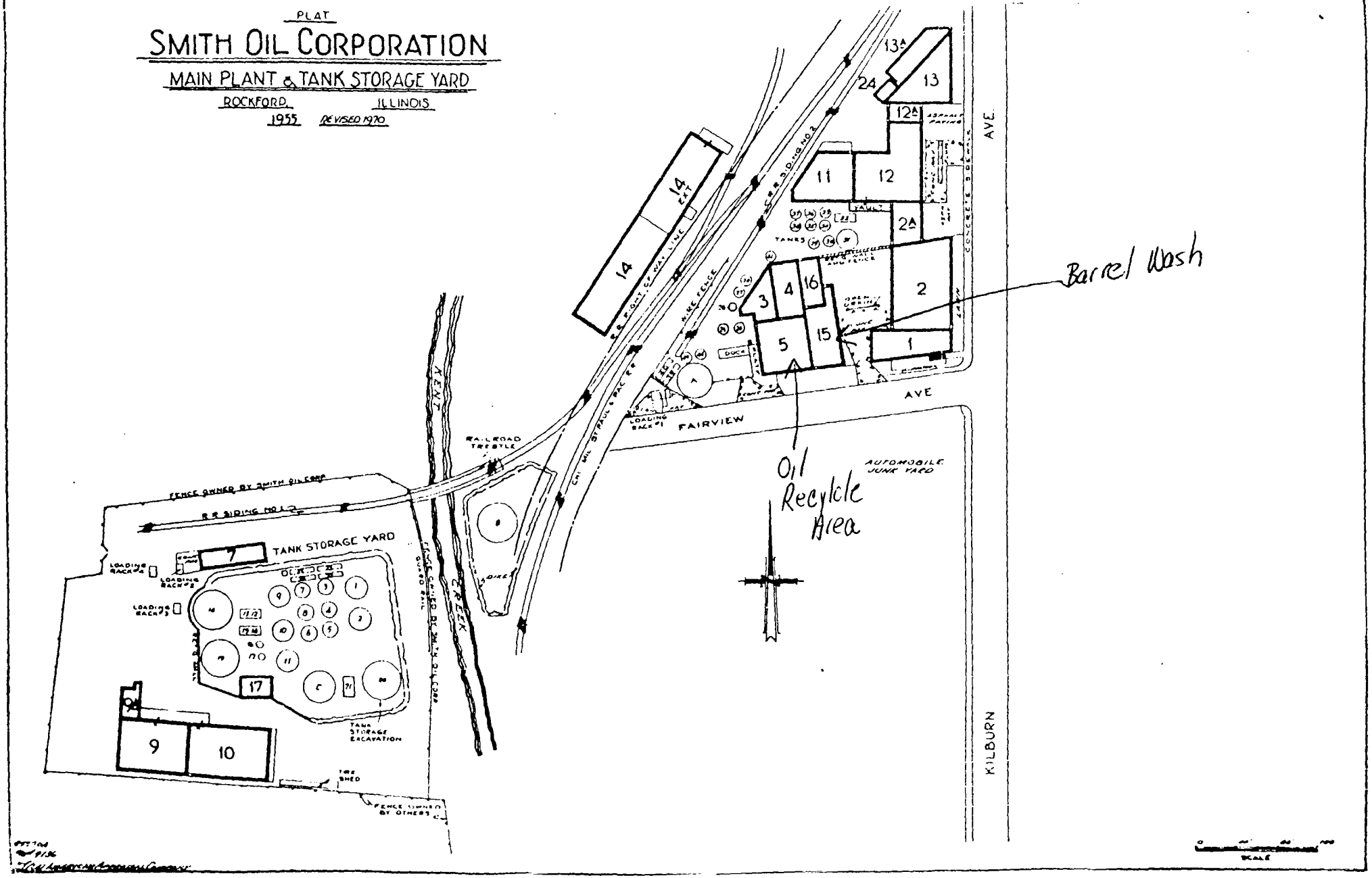
PLAT

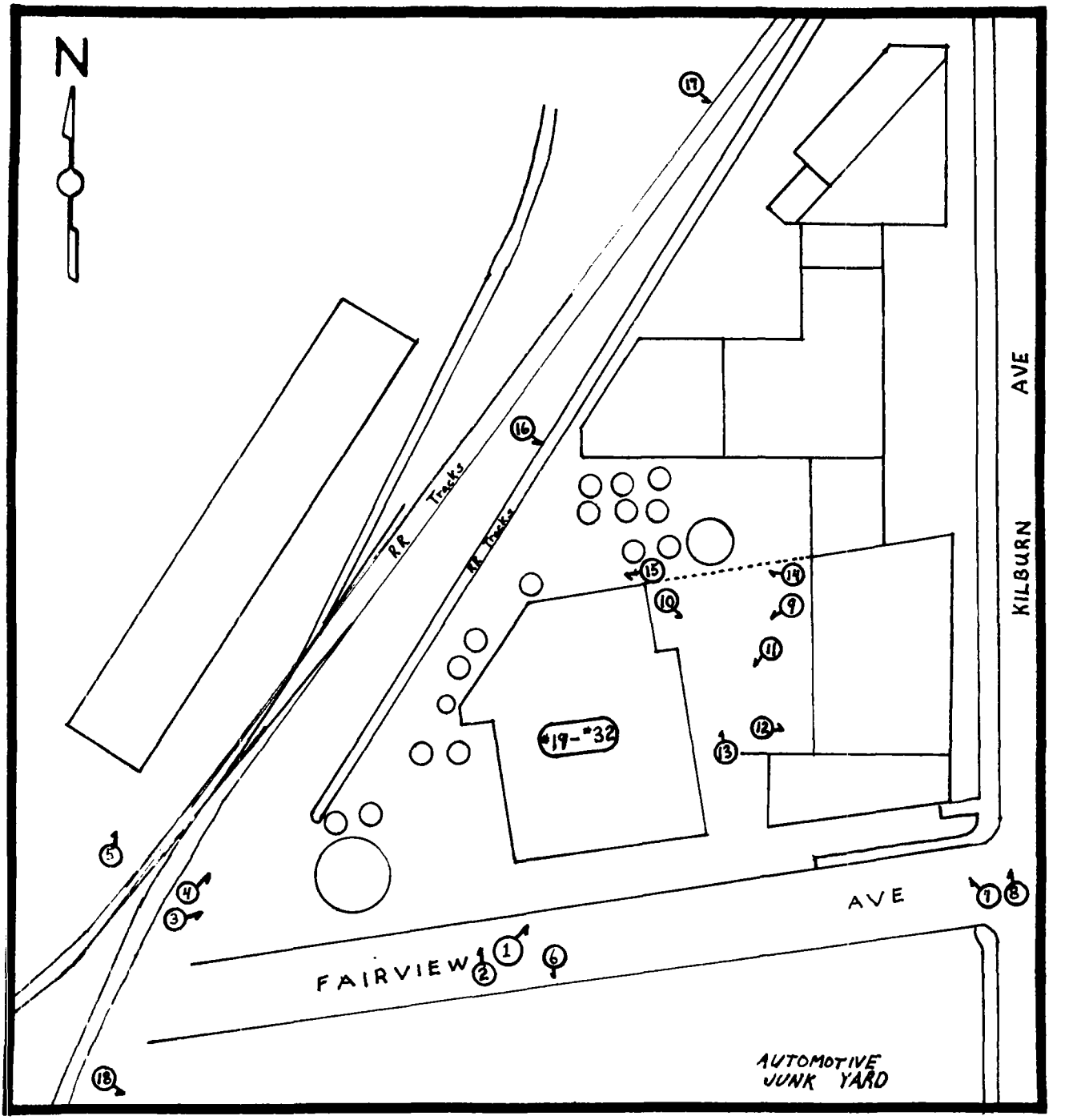
SMITH OIL CORPORATION

MAIN PLANT & TANK STORAGE YARD

ROCKFORD ILLINOIS

1955 REVISED 1970





IEPA:1989

MAP NOT TO SCALE

PHOTOGRAPHIC LOCATION MAP

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

South side of Premium

Oil

*1

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

South side of Premium

Oil

*2

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

View of site from the

Southwest corner

#3

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

View of site from the

Southwest corner. Photo

taken toward the North.

#4

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Warehouse at Southwest corner of site.

#5

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Warehouse sobth of blending area

#6

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

View of Southeast

corner of site

#7

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

View of Southeast/eastern

side of site

#8

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

View of east side of

Premium oil.

#9

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Area between old Smith

Oil building and currently

operating Premium Oil. Empty

drums stored in trailer #10

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

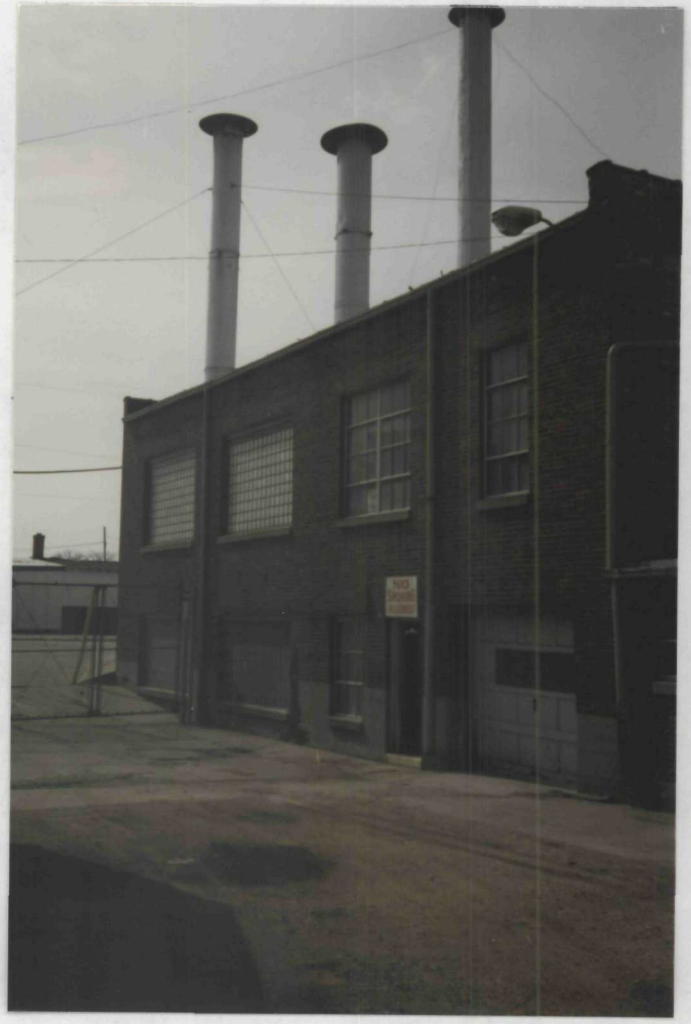
ILD053191547

Comments: Picture taken toward

View of east side of

Premium oil

#11



DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Location of old underground

tanks, removed by Smith

Oil

#12

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Tanks stored North of area

between the two buildings.

#13

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

View of Northeast corner

of Premium Oil.

#14

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

View northwest from the northeast corner of Premium Oil

#15

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

View Southeast into the area North of Premium Oil.

#16

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Northwest corner of site

#17

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Creek west of site

#18

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith 0:1/Premium 0:1

ILD053191547

Comments: Picture taken toward

Drum of Xylene on second

floor of Premium 0:1

*19

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith 0:1/Premium

Rockford, IL

Comments: Picture taken toward

Storage area for Xylene

*20

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Valves for 8,000 gallon

tanks. Tanks on 1st floor.

*21

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

View of 8,000 gallon tanks

*22

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

View of Mixing area

on 2nd floor

*23

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Mixing Vat.

*24

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Mixing Vat.

#25

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Drum storage area on

1st floor.

#26

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward Drum storage of final mix of refined oil. Located in basement.

#27

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium Rockford, IL

Comments: Picture taken toward Drum storage in basement.

#28

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Drum storage area and

Mixing values in basement.

*29

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, Il

Comments: Picture taken toward

Drum storage area in basement.

*30

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location:

Smith Oil/Premium Oil

ILD053191547

Comments: Picture taken toward

Mixing valves in basement

#31

DATE: 3-24-89

TIME: 10:00 A.M.

Photograph by:

Gary L. Reside

Location: Smith Oil/Premium

Rockford, IL

Comments: Picture taken toward

Empty drum storage area in Northeast corner of basement.

#32

Supporting

Documentation

TABLE OF CONTENTS

REFERENCE NUMBER	DESCRIPTION
001	EPA Form 3510-1 (6-80) submitted by Smith Oil Corporation, November 19, 1980.
002	EP Toxicity Test conducted on June 22, 1981.
003	Letter from Sunmark Industries requesting the following: site registration number, permit to develop a solid waste management site, waste hauler permit, special waste disposal application, Form IL 532-0334, and an Operating Permit, August 28, 1981.
004	Cover page of National Pollutant Discharge Elimination System permit issued to Smith Oil Corp. June 6, 1975.
005	Hazardous Waste Manual from Smith Oil Corporation, September 3, 1981.
006	Illinois Environmental Protection Agency Pre-developmental Inspection, September 22, 1981.
007	Smith Oil Corporation Application for Permit to develop a waste storage/treatment site, November 5, 1981.
008	Smith Oil Corporation letter to IEPA relaying additional information concerning Permit to Develop and Operate a storage/treatment facility, January 12, 1982.
009	City of Rockford, Department of Community Development Notification of zoning status, January 13, 1982.
010	IEPA Permit #1982-1-DE, February 2, 1982
011	IEPA Pre-operational Inspection Report, March 4, 1982.
012	U.S. Department of Housing and Urban Development Flood Insurance Study, June, 1979.
013	IEPA permit #1982-1-OP, March 16, 1982.
014	IEPA Inspection Report, November 12, 1982.
015	IEPA telephone conversation record, December 20, 1982.

REFERENCE NUMBER	DESCRIPTION
016	IEPA letter to Smith Oil listing special waste permits, Janaury 25, 1983.
017	IEPA Inspection Report, February 24, 1983.
018	Smith Oil Corporation, Notice on Non-compliance for NPDES permit, June 30, 1983.
019	Smith Oil Corporation notification to IEPA of the sale of their property, October 28, 1983.
020	Smith Oil Corporation notification that property was sold to Coil Brothers & Rock Valley Oil and Chemical Company, April 30, 1984.
021	IEPA notification Smith Oil change of Generator I.D. Number, August 1984.
022	IEPA letter to Smith Oil listing special waste permits, May 17, 1985.
023	IEPA letter to Smith Oil listing special waste permit. September 20, 1985.
024	IEPA Inspection Report, September 13, 1985.
025	Sun Refining and Marketing Company letter to USEPA, December 31, 1987.
026	Letter to IEPA notifying that the Smith Oil site is now owned by the Rockland Park Foundation, April 6, 1988.
027	IEPA letter to Smith Oil Corporation, May 6, 1988.
028	Sun Refining and Marketing Company 1987 Generator Annual Hazardous Waste Report cover letter, June 29, 1988.
029	Material Safety Data Sheets for material utilized by Premium Oil Company, March 24, 1989.

fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0170C-11

FORM 1 GENERAL

EPA

ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F I L D 0 5 3 1 9 7 5 4 7 3

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affi it in the designated space. Review the inform ation carefully; if any of it is incorrect, cros through it and enter the correct data in th appropriate fill—in area below. Also, if any c the preprinted data is absent *(the area to th left of the label space lists the informatio that should appear)*, please provide it in th proper fill—in area(s) below. If the label complete and correct, you need not comple Items I, III, V, and VI *(except VI-B whic must be completed regardless)*. Complete a items if no label has been provided. Refer the instructions for detailed item descri tions and for the legal authorizations und which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

REFERENCE NUMBER 01

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold—faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)			X

III. NAME OF FACILITY

1 SKIP: SMITH OIL CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 Timm William Operation Mgr.	815 962 0661

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 1100 Kilburn Avenue

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 Rockford Illinois		61101

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 1100 Kilburn Avenue

B. COUNTY NAME

Winnebago

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 Rockford Illinois		61101	201

EPA Form 3510-1 (6-80)

NOV 16 1990

CONTINUE ON REVE

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
3412 (specify) Metal barrels, drums & pails	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME

SMITH OIL CORPORATION
SUBSIDIARY OF SUN OIL OF PENNSYLVANIA

B. Is the name listed in Item VIII-A also the owner? ☒ YES ☐ NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL
M = PUBLIC (other than federal or state)
S = STATE
O = OTHER (specify)
P = PRIVATE

P (specify)

D. PHONE (area code & no.) A

E. STREET OR P.O. BOX

1100 Kilburn Avenue

F. CITY OR TOWN Rockford

G. STATE Il

H. ZIP CODE 61101

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water) N NA	**D. PSD** (Air Emissions from Proposed Sources) 9P NA	
B. UIC (Underground Injection of Fluids) U NA	**E. OTHER** (specify) 9Z 791765	(specify) STATE OF ILL. NON-HAZARDOUS
C. RCRA (Hazardous Wastes) R NA	**E. OTHER** (specify) 9Z 791730	(specify) STATE OF ILL. NON-HAZARDOUS

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements. F9 A/50

XII. NATURE OF BUSINESS (provide a brief description)

F9A/51

Petroleum Distributor which includes
Fuel Oil
Gasoline
Industrial Oils
Greases
Solvents
Drum cleanning operations

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
D. F. HAROLD VICE PRESIDENT	D. F. Harold	11-19-80

COMMENTS FOR OFFICIAL USE ONLY

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W I L D Ø 5 3 1 9 7 5 4 7 T/A 3 C 1	W DUP T/A 3 C 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	U 2 2 Ø	5ØØØØØØ	P	T Ø 1	
2	U 2 3 9	5ØØØ ØØØ	P	T Ø 1	
3	D ØØ 1	25Ø,ØØØ ØØØ	P	T Ø 1	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

291

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTE (continued)

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

NA

EPA I.D. NO. (enter from page 1)

F I L D 0 5 3 1 9 5 4 7 T/A 3 C 6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).* F6 B/55

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground--level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).* F6 B/56

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE (degrees, minutes, & seconds)	LONGITUDE (degrees, minutes, & seconds)
42 17 00	089 06 200

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. (area code & no.)
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
D. F. HAROLD	D F Harold	11-19-80

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED

Form Approved OMB No. 158-S80004

FORM 3 RCRA — EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F	I	L	D	Ø	5	3	1	9	7	5	4	7	T/A 3	C 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

C 8 — FOR EXISTING FACILITIES, PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*: YR. 11, MO. Ø6, DAY 11

FOR NEW FACILITIES PROVIDE THE DATE (yr., mo., & day) OPERATION BEGAN OR IS EXPECTED TO BEGIN: YR. , MO. , DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S C — DUP — T/A 3 C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	T01	5ØØ ØØØ	U		7				
2					8				
3					9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE, INCLUDE DESIGN CAPACITY.

NA

IV. DESCRIPTION OF HAZARDOUS WASTES

A. **EPA HAZARDOUS WASTE NUMBER** – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. **PROCESSES**

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

REFERENCE NUMBER 002

Suntech Group
P.O. Box 1135
Marcus Hook, PA 19061
215-447-1700

EP TOXICITY TEST

FEDERAL REGISTER, Vol. 45, No. 98, Monday, May 19, 1980. Book 2, Part III

Subpart C - Characteristics of Hazardous Waste

261.24 - Characteristic of EP Toxicity
Test run according to method found in Appendix II -
EP Toxicity Test Procedure, Page 33127

SAMPLE:- SUNMARK INDUSTRIES
SMITH OIL CORP
ROCKFORD, IL

SAMPLE B - Treated water discharged into sanitary system

TYPE OF SAMPLE AND HOW HANDLED:-

FILTERED THROUGH 0.45 μ FILTER

pH Data:-

pH at start of test -

pH at finish of test (24 hours) - NOT EXTRACTED

Amount of 0.5N Acetic acid added -

REFER TO NOTEBOOK PAGE # 8185L

EP TOXICITY TEST (CONTINUED)

RESULTS

EPA HAZARDOUS WASTE NO.	CONTAMINANT	ALLOWABLE MAXIMUM CONCENTRATION (mg/L)	CONCENTRATION OF CONTAMINANT FOUND (mg/L)	EXCEEDS MAXIMUM ALLOWED
D004	Arsenic	5.0	1.0	
D005	Barium	100.0	5.0	
D006	Cadmium	1.0	0.1	
D007	Chromium	5.0	0.1	
D008	Lead	5.0	<1.0	
D009	Mercury	0.2	<0.1	
D010	Selenium	1.0	<1.0	
D011	Silver	5.0	0.2	
D012	Endrin	0.02	0	
D013	Lindane	0.4	0	
D014	Methoxychlor	10.0	0	
D015	Toxaphene	0.5	0	
D016	2,4-D	10.0	0	
D017	2,4,5-TP Silvex	1.0	0	

HAZARDOUS WASTE NO. ASSIGNED:
(IF APPLICABLE)

Virginia W Jamison
ENVIRONMENTAL CONSULTANT

DATE:- 6/22/81

REFER TO NOTEBOOK PAGE # 5/52-56

Suntech Group
P.O. Box 1135
Marcus Hook, PA 19061
215-447-1700

EP TOXICITY TEST

FEDERAL REGISTER, Vol. 45, No. 98, Monday, May 19, 1980. Book 2, Part III

Subpart C - Characteristics of Hazardous Waste

261.24 - Characteristic of EP Toxicity
Test run according to method found in Appendix II -
EP Toxicity Test Procedure, Page 33127

SAMPLE:- SONMARK INDUSTRIES
SMITH OIL CORP
ROCKFORD, IL
SAMPLE A - 'Discharge' from Reclaiming Tank - Marked by Bonnie Reid

TYPE OF SAMPLE AND HOW HANDLED:-

FILTERED THROUGH 0.45 μ filter

pH Data:-

pH at start of test -

pH at finish of test (24 hours) - NOT EXTRACTED

Amount of 0.5N Acetic acid added -

REFER TO NOTEBOOK PAGE # T18255

Suntech, Inc. A Sun Company

EP TOXICITY TEST (CONTINUED)

RESULTS

EPA HAZARDOUS WASTE NO.	CONTAMINANT	ALLOWABLE MAXIMUM CONCENTRATION (mg/L)	CONCENTRATION OF CONTAMINANT FOUND (mg/L)	EXCEEDS MAXIMUM ALLOWED
D004	Arsenic	5.0	2.0	
D005	Barium	100.0	5.0	
D006	Cadmium	1.0	0.1	
D007	Chromium	5.0	0.1	
D008	Lead	5.0	<1.0	
D009	Mercury	0.2	<0.1	
D010	Selenium	1.0	<1.0	
D011	Silver	5.0	0.2	
D012	Endrin	0.02	0	
D013	Lindane	0.4	0	
D014	Methoxychlor	10.0	0	
D015	Toxaphene	0.5	0	
D016	2,4-D	10.0	0	
D017	2,4,5-TP Silvex	1.0	0	

HAZARDOUS WASTE NO. ASSIGNED:
(IF APPLICABLE)

Virginia L. Jamison
ENVIRONMENTAL CONSULTANT

DATE:- June 22, 1991

REFER TO NOTEBOOK PAGE # 818255

SUNMARK INDUSTRIES
A Division of Sun Oil Company of Pennsylvania

P.O. BOX 7368 PHILADELPHIA, PA. 19101/1845 WALNUT STREET, PHILADELPHIA, PA. 19103

Logged in 9/1/81

REFERENCE NUMBER 003

August 28, 1981

RECEIVED
SEP 03 1981
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

Rama Chaturvedi
Manager of Special Waste Section
Division of Land/Noise Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, IL 62706

Dear Mr. Chaturvedi:

As we discussed, I have enclosed the following forms and applications for Smith Oil Corporation:

1. Application for site registration number

2. Application for Permit to Develop a Solid Waste Management Site

3. Waste Hauler Permit Application

4. Special Waste Disposal Application (2)

5. Form IL 532-0334 (6 forms)

6. Application for Permit - "Operating"

In addition, I have also attached copies of two Browning-Ferris Profile Sheets. These sheets should help speed the review process for our waste streams being handled by Browning-Ferris. As I mentioned during our telephone conversations, time is running out on Smith Oil's Browning-Ferris waste stream permits. Your cooperation in processing these forms is greatly appreciated.

For your information, Smith Oil is a wholely owned subsidiary of Sunmark Industries, a division of Sun Oil Company of Pennsylvania.

If you have any questions, please call me at (215)972-4077.

Very truly yours,

SUNMARK INDUSTRIES, A Division
of Sun Oil Co. of Pennsylvania

MSWeiss

Marsha S. Weiss
Environmental Specialist

Environmental Protection Agency

2200 Churchill Road, Springfield, Illinois 62706

Waste
Check if
Applicable

APPLICATION FOR PERMIT
TO DEVELOP A SOLID WASTE
MANAGEMENT SITE

___ Storage
___ Transfer
_x_ Processing
_x_ Recovery
_x_ Incineration
___ Other

In Accordance With The Environmental Protection Act

All information submitted as part of the Application is available to the public except when specifically designated by the Applicant to be treated confidentially as regarding a trade secret or secret process in accordance with Section 7(a) of the Environmental Protection Act.

RECEIVED
SEP 03 1981
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

APPLICATION MUST BE SUBMITTED IN DUPLICATE

PART I - APPLICANT INFORMATION

A. Site Identification

1. Name of Applicant: Smith Oil Company, A Subsidiary of Sunmark Industries, A Division of Sun Oil Co. of Penna.
(Person responsible for operation)

2. Address of Applicant: 1102 Kilburn Avenue
(Street, P.O, Box, or R. R. #)

Rockford (City) IL (State) 61107 (Zip Code)

Telephone: 815-962-0661
(Area Code) (Number)

3. Name of Land Owner: Smith Oil Corporation
(If same as above, so indicate)

4. Address of Land Owner: 1100 Kilburn Avenue
(Street, P.O. Box, or R. R. #)

Rockford (City) IL (State) 61101 (Zip Code)

12. Check applicable boxes which describe the use of adjacent properties surrounding site.

	Residential	Commercial	Industrial	Agricultural	Others*
a. North	( )	(x)	( )	( )	( )
b. East	(x)	(x)	( )	( )	( )
c. South	( )	(x)	( )	( )	( )
d. West	(x)	( )	( )	( )	( )

*SPECIFY USE CLASSIFICATION_____

13. a. Are there any permits, operational requirements, licenses, or other requirements or restrictions by any municipality, planning commission, county, county health department, state agency, or other governing body?
( ) Yes (x) No If yes, List below. NPDES

b. Have these requirements, licenses or restrictions been approved by the agency or governing body having jurisdiction?
(x) Yes ( ) No

c. If the answer to (b) is yes, include photocopies of supporting documents. - NPDES application

B. LOCATION

14. Attach a copy of the United States Geologic Survey (U.S.G.S.) topographic quadrangle map of the area which contains the site. (7.5 minute quadrangle, if published).

Quadrangle Map Provided: Rockford North (Name) 1976 (Date)

15. a. Outline on the U.S.G.S. topographic quadrangle map the location and extent of the site.

b. Provide a legal description of the site. (Typewritten on attached sheet.)

_____Acres in SE Quarter, _____Quarter, _____Quarter,
of Section 15, Township 44 North,
Range 1 East, 3rd P.M.

TYPE AND EXTENT OF SUBSURFACE MATERIALS

19. Provide a complete log (description) of each boring made during the exploratory program, and include all other pertinent data so obtained.

20. Include the following information regarding the bedrock, if encountered during the boring program:

    a. Depth(s) to bedrock.
    b. Lithology (physical character) and hydrologic characteristics of the bedrock formation.
    c. Name and age of the formations encountered during the boring operation and (or) which crop out on or adjacent to the site.

C. MATERIALS CLASSIFICATION AND ANALYSIS

21. Provide the following information for samples taken during the boring operation:

    a. textural classification (U.S.D.A. system)
    b. particle size distribution curves for representative samples
    c. coefficient of permeability - based on field and (or) laboratory determinations
    d. ion-exchange capacity and ability to absorb and "fix" heavy metal ions

D. HYDROLOGY

22. Provide the following information regarding the hydrologic flow system in the area of the site:

    a. Depth to water in boreholes at time of boring completion and periodic measurements until the water level has stabilized.
    b. Rate(s) and direction(s) of ground-water movement.
    c. A narrative description (with diagrams) of the design and installation procedures for all piezometers installed at the site. This shall include both water-level measuring piezometers and those installed for permanent use as water-quality monitoring points.
    d. An analysis of the background ground-water quality, as per those constituents listed in the Instructions. Attach a copy of the laboratory report.
    e. An outline of the procedures, devices, and personnel to be employed for the collection of periodic ground-water samples from the monitoring point(s) installed at the site.

B. SCHEDULE OF CONSTRUCTION

27. Attach a typewritten narrative supplemented by indications on the plans of the sequence of areas to be developed. Estimate the date of beginning and ending of each phase of construction and operation.

C. CONSTRUCTION REQUIREMENTS

28. Attach a typewritten narrative supplemented by indications on the plans of provisions to be made for:

a. Prevention of surface-water pollution.

b. Control of gas migration.

c. Elimination of flood hazard, if any.

d. Employee facilities.

f. Measuring quantity of waste delivered to the site.

PART V - OPERATING PLAN

A. SOURCE AND VOLUME

29. Indicate the estimated quantity of each of the following sources and types of waste the facility will handle during each day of operations; each week of opertion; each year of operation. Specify any additional information regarding refuse source and quantity.

SOURCE	TYPE	DAILY QUAN.	WEEKLY QUAN.	ANNUAL QUAN.
a. ~~Residential~~ Industrial	drum wash residues	69 gal.	481 gal	25,000
b. ~~Commercial~~ Industrial	recycled oil	35 gal.	240 gal.	12,000
c. Industrial	waste oil mixed as fuel for boiler	123 gal.	865 gal.	45,000
d. ~~Agricultural~~				
e. Other (Describe)				

B. OPERATING REQUIREMENTS

* 30. Attach a typewritten description of provisions for:

a. Personnel for supervision and operation
b. Traffic control

*Attached is a copy of Hazardous Waste Manual
Updated Analysis of Drum Wash Waste
Description of Hydraulic Oil Recycle System

d) The clerk of each municipality, any portion of which is within three miles of the site.
e) Adjacent landowners to the proposed site.
f) Local zoning and planning agencies.

33. Provide the following documentary evidence sufficient to show:

a) That the facility is located so as to minimize scenic blight, and to avoid damage to archaeological and/or historic sites and areas of significant natural beauty;

b) That the facility is located so as to avoid any hazards to public health and safety and to minimize any offenses to the senses of persons residing, working, traveling, and/or in any way spending periods of time in the immediate vicinity. Immediate vicinity is here defined to mean a one-mile radius zone adjacent to the boundary of the site;

c) Taking into consideration the character of the area involved, including the character of surrounding land uses and the trend of development, as well as local comprehensive plans and zoning ordinances, that the facility is located so as to minimize incompatibility with the character of the surrounding area.

d) That the facility is located so as to avoid causing substantial depreciation of nearby property (taking into consideration, where possible, any mitigation caused by the short proposed life of the site and end use);

e) That any detriments caused by removal of the site from its former use are out-weighed by the need in the area for such a facility at this location;

f) That the facility is located so as to avoid a continued adverse effect on existing air and water quality; and

g) Taking into consideration geological and hydrological factors, the location of the site in relating to sources of solid waste and accessibility to transportation modes, and the technical feasibility and economic reasonableness of disposing of solid waste at the proposed location, that the facility is suited for its intended use.

h) That access roads and bridges are not limited to preclude necessary vehicular traffic (i.e. proposed size and weight limits).

APPLICATION FOR PERMIT

In order to clarify submittals made to the Land Permit Section, this document shall be utilized as page one of applications for Operating Permit and Supplemental Permit for site modification. This form is not to be used with applications for Development Permit and for Supplemental Permit to accept special waste (green forms).

8/28/81
date

Illinois Environmental Protection Agency
Land Permit Section
Division of Land/Noise Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Gentlemen:

This is an application for

[x] Operating Permit - submitted a developmental permit as both developmental and operating per as per Mike Rogers

[ ] Supplemental Permit to modify development

[ ] Supplemental Permit to modify operation

for

Site Name: Smith Oil Corp.

Site Address: 1100 Kilburn Avenue

Rockford, IL 61101

County: Winnebago

REFERENCE NUMBER 004

Permit No. IL 0045519

Application No. IL 0045519

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"),

SMITH OIL CORPORATION

is authorized by the United States Environmental Protection Agency, Region V,

to discharge from a facility located at Rockford Bulk Plant
1100 Kilburn Avenue
Rockford, Illinois 61101

to receiving waters named North Branch Kent Creek

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit and the authorization to discharge shall expire at midnight, October 31, 1979 . Permittee shall not discharge after the above date of expiration. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information, forms, and fees as are required by the Agency authorized to issue NPDES permits no later than 180 days prior to the above date of expiration.

This permit shall become effective 30 days from this date of signature.

Signed this 30th day of [illegible] 1979

Director, Enforcement Division

REFERENCE NUMBER 005

HAZARDOUS WASTE MANUAL

SMITH OIL CORPORATION
1100 Kilburn Ave.
Rockford, Illinois

Number of Employees: 39

COORDINATOR

Bill Timm, Operations Manager
1711 Carney Avenue
Rockford, Illinois 61103

Phone: 962-0661 - Extension 8 (Office)
962-7592 - (Home)
965-0614 - (Alternate)
962-0661 - Unit #3 (Car Radio)

EMERGENCY COORDINATOR

Bob Kuczynski, Maintenance Superintendent
1604 - 10th Avenue
Rockford, Illinois 61108

Phone: 962-0661 - Extension 28 (Office)
962-0661 - Unit #909 (Truck Radio)
397-6906 - (Home)

ALTERNATE

Ben Hade, Blend Plant Superintendent
2107 Bell Avenue
Rockford, Illinois 61103

Phone: 962-0661 - Extension 30 (Office)
962-6477 - (Home)

THE FIRE DEPARTMENT HAZARDOUS WASTE TRUCK IS LOCATED APPROXIMATELY TEN (10) BLOCKS FROM OUR COMPLEX AND THE FIRE DEPARTMENT IS AWARE OF OUR HAZARDOUS WASTE IN OUR COMPLEX.

PLEASE ADVISE WHEN CALLING THE FIRE DEPARTMENT THAT WE HAVE A HAZARDOUS WASTE SPILL -

FIRE DEPARTMENT NUMBER IS: 964-3321.

I N D E X

CONTINGENCY PLAN.....Page 1 & 1-A

GENERAL WASTE ANALYSIS.....Page 2

SECURITY .....Page 3

GENERAL INSPECTION.....Page 4 & 4-A

PERSONNEL TRAINING.....Page 5

GENERAL REQUIREMENTS FOR IGNITABLE,

REACTIVE OR INCOMPATIBLE WASTE.....Page 6

CONTINGENCY PLAN -

EMERGENCY PROCEDURES:

In case of a non-planned emergency spill, the Fire Department is to be notified immediately and told that we have had a spill. This will enable the Fire Department to send their hazardous waste unit immediately. The Fire Department phone number is - 964-3321. Rockford Memorial Hospital is the closest hospital to our complex and should also be alerted as needed.

All personnel trained to respond to fire or explosion are to respond to a non-planned hazardous waste spill. Siren is located on the roof of the Blend Plant building and will be activated in the case of an unplanned spill. Spill prevention plan is available for Smith Oil complex plus an amendment to that plan known as Exhibit II.

It is necessary for the person who is in charge to notify the E.P.A. of a spill. The number is 1-800-424-8802. (Available 24 hours daily.) The Emergency Coordinator must notify the National Response Center in case of a spill. The number is 1-800-424-8802 (24 hours daily). Give the following information to them:

1. Name and telephone number of person reporting.
2. Name and address of facility.
3. The time and type of incident, e.g., release, fire.
4. Name and quantity of materials involved to the extent known.
5. The extent of injuries, if any.
6. The possible hazard to human health or to the environment outside the facility.

In the event of a spill where the Coordinator is not available, he must be notified as soon as possible. Federal law requires a written report is submitted within 15 days after the incident to the Regional

CONTINGENCY PLAN (continued)

EMERGENCY EQUIPMENT - BARREL WASH AREA

Readily available - fire extinguishers, broom, squeegee, shovels, Oil-Dri, pumping equipment, shut-off valves, eye wash, shower, water hoses. Phone located in Blend Plant office or any other phone in office.

EVACUATION PLAN - BLEND PLANT AREA

Same as for fire. (See Exhibit V)

Copy of Contingency Plan will be distributed to all people on Fire Brigade, Maintenance Superintendent, Blend Plant Supervisor, Police Department, Fire Department and hospitals.

EMERGENCY COORDINATOR

The Emrgency Coordinator is responsible for activating the internal alarm, notify proper agencies, evaluate possible hazard to human health and take proper action as necessary.

EXHIBIT II

BARREL WASH ROOM

In the Barrel Wash room there is a 300 gallon tank in which the solution is placed for cleaning the barrels. This tank is emptied into an underground 1000 gallon tank. There is also a grate in the floor in the Barrel Wash room that empties directly into the underground holding tank.

A shutoff valve is located on the barrel wash itself. A shutoff valve is also located on the stainless steel tank and also on the holding tank. These valves are well known by all employees who work in the respective areas, by the Supervisor of the Blend Plant, and our maintenance people.

Extreme caution is used in this area by all employees, and they have been so advised that if any problem arises to shut down the entire operation immediately. Any non-planned spills in this area would be handled by the grating system in the Barrel Wash room, and would automatically drop into the underground holding tank.

A non-planned spill when loading the truck transport would also be handled by the grate inside the Barrel Wash room.

An outside spill would end up in the reclamator on the outside of the building. We have an automatic shutdown when pumping from the holding tank to the stainless steel tank. This assures us of not overflowing the stainless steel vessel.

EXHIBIT V

TO: All Employees

FROM: Bill Timm

DATE: March 4, 1981

SUBJECT: Fire Evacuation

Attached are emergency procedures to be used in case of fire. We have reorganized the Fire Brigade which is only to contain the fire as much as possible until the Fire Department arrives. In the near future, there will be a test run to see how organized and fast the respective areas can be evacuated under the watchful eye of the Fire Department.

Our Fire Brigade Chief is Ben Hade. The other volunteers are Carl Schoenborn, Lee Jones, Bud Schuld, Ken Poole, Dick Herr, Ernest Anderson, Dick Carey and Bob Kuczynski.

SMITH OIL CORPORATION

STANDARD OPERATING PROCEDURE

Smith Oil Corporation
1100 Kilburn Avenue
Rockford, Illinois

ALL PERSONNEL

1. The person who discovers the fire will immediately call the Fire Department from the nearest telephone - 964-3321.

2. Report to Fire Department, "This is Smith Oil Corporation, 1100 Kilburn Avenue, reporting a fire at 1100 Kilburn Avenue, west side."

3. Upon completion of call to Fire Department, the individual will then notify by using the page system:

    a. Fire in area (1 or 2)
    b. Evacuation area (1 or 2), or general evacuation. Person reporting fire must use his own good Judgement to determine evacuation plan.

4. He will remain at fire site, taking the necessary preventative measures, and direct fire brigade to site of fire.

5. Operator will repeat information over page systen and then sound the alarm.

6. Explanation of area of evacuation (1 or 2) and/or general evacuation:

    a. Area 1 is from the west side of Kilburn Avenue west to creek to include:
        1. General Office
        2. Oil Warehouse
        3. Oil Compounding Building

    b. Area 2 is from creek west to include:
        1. Garage
        2. Bulk Plant Area
        3. Loading Rack Area

    c. General evacuation is evacuation of all personnel except those immediately concerned with the fire and the fire brigade.

7. Explanation of evacuation:

    a. General Office will evacuate accross Fairview Avenue and walk South on the West side of Kilburn Avenue.

    b. Oil Warehouse and Oil Compounding Building will evacuate to the Parking Area.

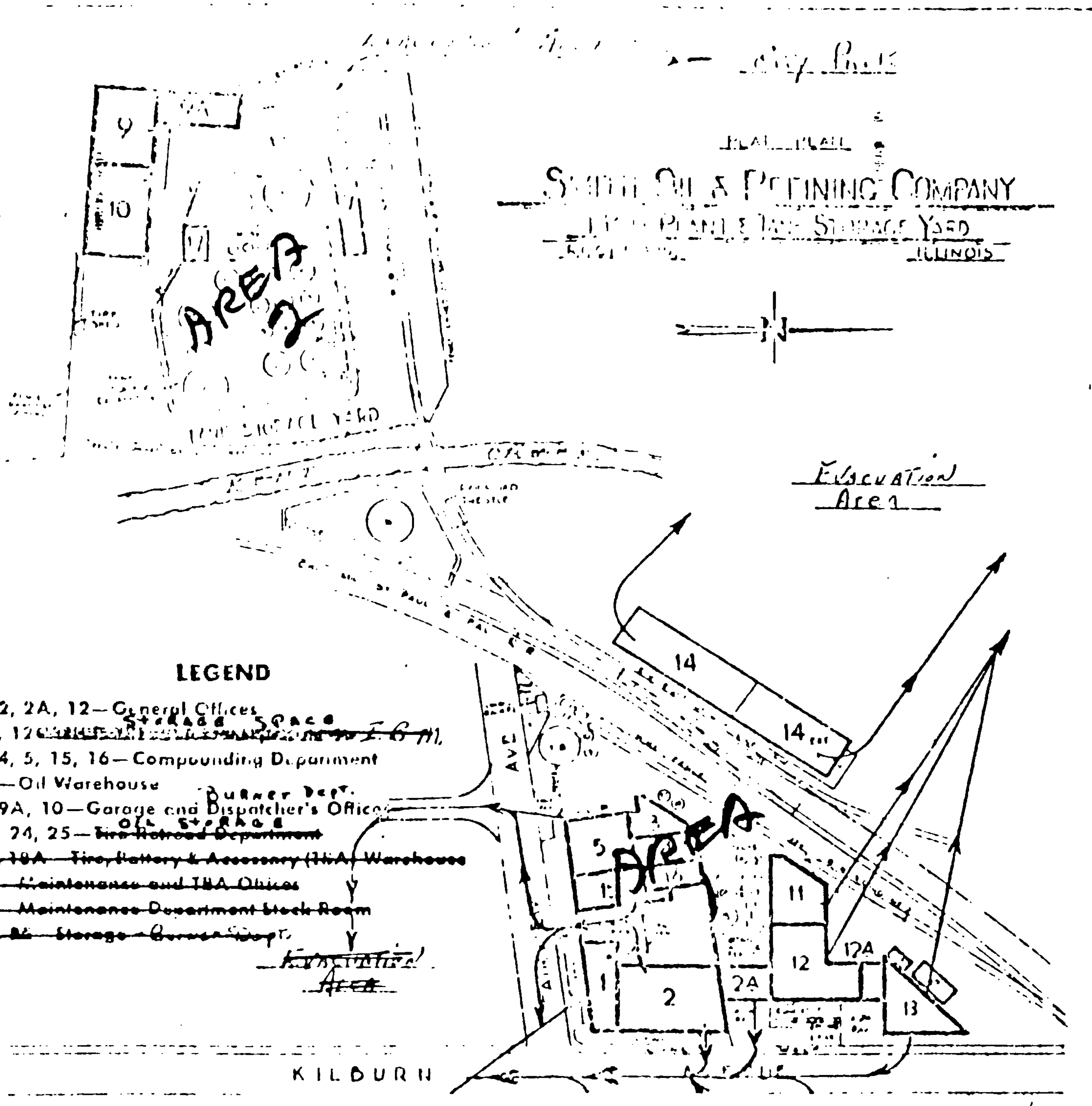
c. Area 2 will evacuate to a safe distance west of garage, outside of fence.

8. Upon notification of evacuation of your area, all personnel not involved with fire and fire brigade will secure their immediate work area and retire promptly and quietly to their evacuation area. They will remain in evacuation area until all clear is sounded or until instructed further by Cheif of Fire Brigade. Upon all clear, all employees will return to their respective work areas. All exits to all buildings are to be used in evacuation.

The following personnel will direct both pedestrian and vehicular traffic:

Ron Malmberg
Myles Kunz
David Robbel
Virgil McCallen

Fire Brigade Chief: Ben Hade Ext. 30
Home Phone: 962-6477


SMITH OIL & REFINING COMPANY
ILLINOIS
AREA 2
Evacuation Area
LEGEND
1, 2, 2A, 12—General Offices
Storage Space
3, 4, 5, 15, 16—Compounding Department
14—Oil Warehouse
Burner Dept.
9, 9A, 10—Garage and Dispatcher's Office
Oil Storage
13, 24, 25—Tire Retread Department
18, 18A—Tire, Battery & Accessory (TBA) Warehouse
20—Maintenance and TBA Offices
23—Maintenance Department Stock Room
21, 26—Storage
AREA
AVE
KILBURN

GENERAL WASTE ANALYSIS

Attached is a copy of Analysis Report #14338 dated 8/29/80 (Exhibit III) and Report dated 4/16/80 (Exhibit IV). Before dumping the clear fluid into the sanitary sewer a sample is taken to Aqua Lab for testing to make sure it meets with the Sanitary Board requirement before discharge. After receiving the sample back, the clear effluent is discarded into the sanitary sewer. The above procedure is done on a weekly basis or as required. Records are maintained in the Maintenance Superintendent's office, and a copy is sent to the Sanitary District. (SEE EXHIBITS I - III - IV).

EXHIBIT 1

MET-CHEM CONSULTANTS, INC.

PROCEDURE FOR DETOXIFYING BARREL WASH

1. Pump spent wash solution into stainless treatment vessel and allow to cool to 80-100°F (the cooling may not be necessary if the reaction of adding sulfuric is not too violent).
2. Pump in concentrated sulfuric acid at a slow enough rate to avoid "foam-over" until pH is at 2.
3. Heat the tank to 180°F Min. for 4 - 6 hours while agitating.
4. Raise pH to 8.5-9.0 with additions of liquid caustic soda or 20% agricultural lime slurry.
5. While agitating allow to cool to room temperature and skin oil from top of tank.
6. Add flocculant and agitate for 10-15 minutes.
7. Stop agitation and allow precipitates to settle.
8. Skim top again if necessary.
9. Discard clear supernatant to sanitary sewer and sludge to sludge holding tank.

GENERAL WASTE EXHIBIT III

[illegible] inc
[illegible] street
[illegible] Illinois, 61109
[illegible]

analytical report 19 September 1980 analysis no : 14338

SMITH OIL CORPORATION
1100 Kilburn Avenue
Rockford, Illinois 61103

Attention: Mr. Burt Alms

date taken		date received	date analyzed
8/29/80	0900	8/29/80	

SAMPLE DESCRIPTION: Barrel Wash Effluent

Parameter	Analysis, ppm	Leach, ppm*
Arsenic	<0.01	
Cadmium	0.32	
Chromium, total	90	
Copper	13	
Cyanide, total	109	7.86
Lead	305	3.0
Mercury	<0.01	
Nickel	0.25	
Zinc	400	2.25
pH	8.22	
%Total Solids	7.0%	
Flash Point	204° - Boil Point	

Larry McAnarney,
Laboratory Supervisor

EXHIBIT IV

MET-CHEM CONSULTANTS, INC.

April 16, 1980

Smith Oil Corporation
1100 Kilburn Ave.
Rockford, Illinois 61101

Attn: Mr. Bill Timm

Subject: Modification of Barrel Wash Water Treatment System

Dear Bill:

The following represents my report and recommendations for the treatment system currently in use by your company:

BACKGROUND: The study conducted by Met-Chem was initiated because of the high toxic-levels contained in the treated effluent produced by Smith Oil's barrel-wash operations. Standard procedure was to collect the spent barrel wash solution in a stainless vessel, lowering the pH to 2-3 using sulfuric acid to destroy cyanides, and then bringing the pH back up to 7 using anhydrous ammonia. Finally, a coagulant was added to facilitate sludge sedimentation and the clear supernatant was discharged to the sanitary district. Analysis of this supernatant was found to be as follows:

	EFFLUENT-BEFORE TREATMENT	EFFLUENT-AFTER TREATMENT	RSD REQMTS*
Cyanide	7.2	0.2	1.2
Copper	12.5	0.06	17.6
Nickel	0.3	0.17	6.7
Chromium	93.0	22.4	21.8
Iron	119.0	40.1	56.0
Lead	180.0	43.0	1.5
Zinc	278.0	29.0	16.5

*The readings obtained in the final effluent are obviously in violation of the governing Rockford Sanitary District Requirements.

DISCUSSION: The reason for the high readings, as determined in the laboratory, was the presence of chelators in the cleaning solution as well as the neutralizing gas(NH_3). By using a non-chelated cleaner, Met-Chem #105, and liquid caustic soda instead of anhydrous ammonia, the following readings were obtained on the resultant effluent:

	BEFORE TREATMENT	AFTER TREATMENT
Cyanide	5.3	0.25
Copper	13.5	0.1
Nickel	0.5	0.1
Chromium	63.7	0.04
Iron	116.7	1.7

	BEFORE TREATMENT	AFTER TREATMENT
Lead	214.1	1.2
Zinc	255.3	0.8

The only difficulties encountered in employing the suggested modifications was the controlling of the final pH at the value of 9. It is my recommendation that Smith Oil Company purchase and use a pH indicator/controller with a chemical feeder pump in lieu of the presently used barrel transfer pump and pH paper. The above mentioned recommendations should render the effluent quite accepteble for discharge into the Rockford Sanitary District Sewer System.

Sincerely,

G. Hausner

G. Hausner,
Chemist

GN/cln

SECURITY

Signs posted on all entries leading to drum wash area. When the Blend Plant is closed, the security and fire alarms are automatically set up after normal business working house. Fire alarm systems are working twenty-four (24) hours per day. This area is also checked by our Maintenance Superintendent and by security personnel after closing house.

GENERAL INSPECTION

The barrel wash room is inspected on a daily basis by the Blend Plant Superintendent and Maintenance Superintendent. Employees working in this area are advised to report immediately any malfunction of any equipment in this area. The Maintenance Superintendent inspects this equipment on a weekly basis, and both Maintenance Superintendent and Blend Plant Superintendent are to log this information on a daily basis or when needed. Major problems regarding malfunction or deterioration are to be brought to the attention of the Operations Manager immediately. This log will be kept in the office of the Blend Plant. In line with the above, we will document any action regarding malfunctions or deterioration, in the log book.

Barrel wash system must be checked once per week and must be logged in a log book. To be checked for the following:

1. Malfunctions or deteriorations.
2. Check for approximate amount in tank and record with date and time.
3. Check for leaks
4. Check on construction
5. Check all gauges
6. Check all pipes and connections
7. Check all meters
8. Check all signs
9. Sump Pump

Inspection schedule and log to be kept in Blend Plant. Any malfunctions or deterioration of equipment must be noted in log and corrected at once

GENERAL INSPECTION (continued)

Proper ventilation is required, and an inspection of the system on a regular basis.

All recordings in log book must record name of the person inspecting, the date and time.

PERSONNEL TRAINING

All personnel involved have been in attendance at several meetings during the past year and understand and have been trained to know that full compliance is necessary at all times. We have had meetings with Mr. Jerry Nauser, a professional engineer, who has helped us design our system in regard to the working matter of this system.

Meetings will be set from time to time to discuss and explain to all personnel who work in this area, their required duties, and to help promote a high degree of safety in this area.

Training for the operator was done on-the-job by the former Maintenance Superintendent, Burt Alms. Bob Kuczynski worked with Burt in the installation of this equipment and the actual running of equipment for the test for a period of eight (8) months. He has been involved in all meetings regarding this matter.

Smith Oil Corporation and all its employees will endeavor to do everything possible to comply with all regulations of the EPA. As in the past, all employees will respond effectively to all emergencies.

GENERAL REQUIREMENTS FOR IGNITABLE REACTIVE OR INCOMPATIBLE WASTE -

"NO SMOKING" signs are posted in this area along with an eye wash and shower, and other signs, as needed. Also neoprene aprons, rubber boots, gloves, and goggles are provided.

Our non-hazardous waste is not considered ignitable.

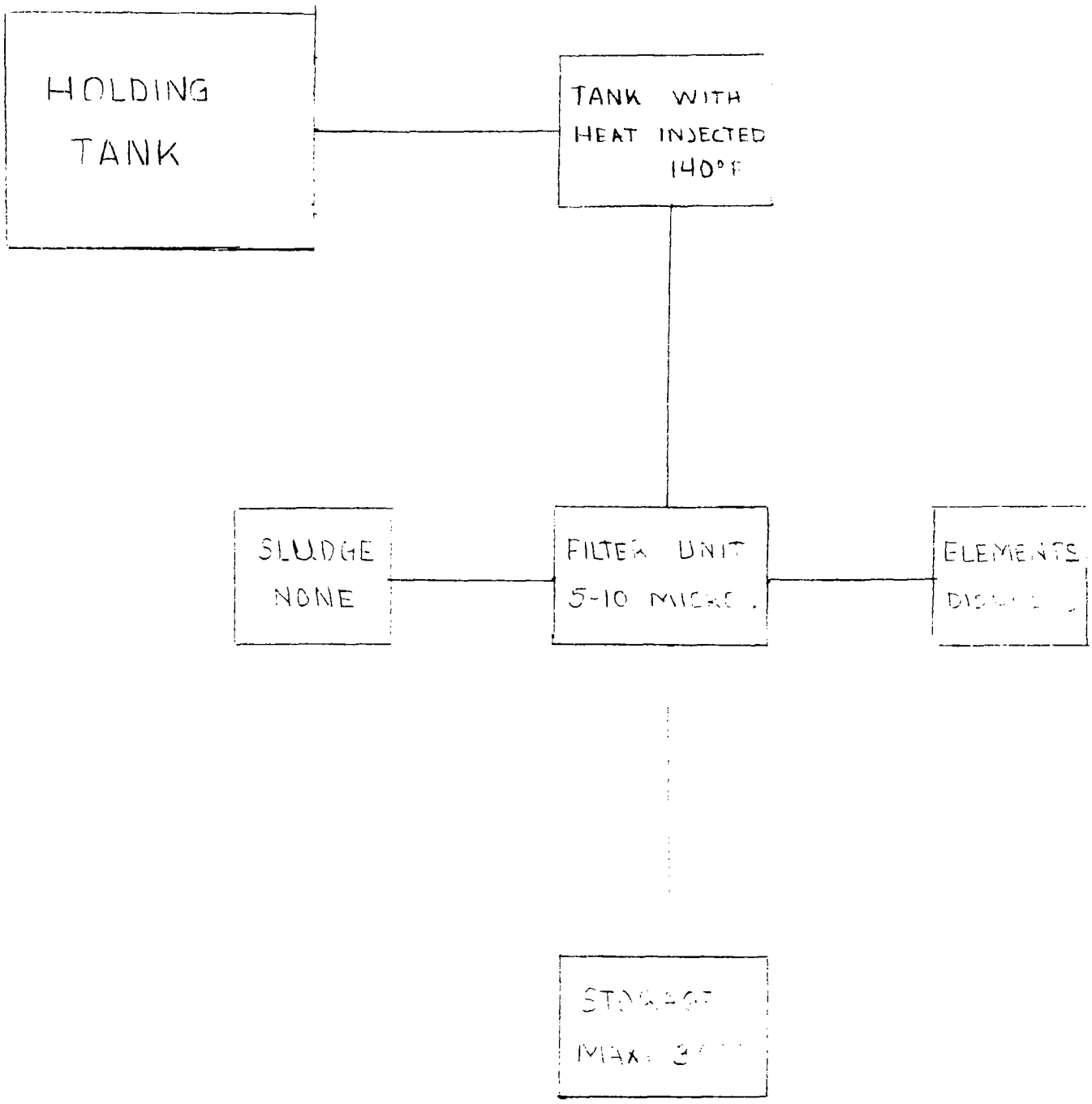
All precautionary measures must be taken by all employees working in this area to prevent fire, explosions, or any violent reactions of any source or kind.

This area is ventilated by a vent fan in the roof, plus a cover on the stainless steel tank, with an exhaust fan which runs continuously when treatment is being done.

Ventilation is also provided over the barrel wash area. All motors in this area are explosion-proof.

All EPA Manifests are located in Operation Manager's office in file marked "EPA".

The oil being reprocessed is a combination of hydraulic oil and machine oil. This oil is picked up and placed in storage. Then when required, the oil is taken from the storage tank and filtered and is resold for cutting oil. Oil that has been filtered remains in storage for a maximum of 30 - 45 days. Maximum yearly usage is approximately 12,000 gallons. The reason for the filtering is to remove moisture and dirt contamination. Moisture and dirt content in the above process is less then 1%.



DE file

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

REFERENCE NUMBER 006

DATE: September 22, 1981

TO: Sallie Smith

FROM: Pam LoPinto

SUBJECT: Winnebago Co. Rockford/Smith Oil Corporation
Pre-Developmental Inspection

An inspection was conducted, between 9 AM and 11 AM, with Bob Kuczynski, Maintenance Engineer.

Inspected was the barrel wash area, waste oil storage, reclamator, laboratory, boiler room and resale storage yard. The site appears clean, orderly, and compatible with the character of the surrounding area.

Bob Kuczynski explained the barrel wash process to me and it is as described in the permit application. A sketch of the barrel wash is attached. All aspects of the barrel washing process are inspected daily and the sludge and effluent (both non-hazardous) are sampled regularly.

The waste oil storage area consists of two above ground tanks (39 and 40) and two underground storage tanks. Gales Oil Service brings oil to the site and each load is analyzed in the lab, mainly for % moisture content. This oils is mixed with #5 fuel oil and burned in the boiler. The unloading area (south of tanks 39 and 40) is oily, however, the area is concrete-lined and any runoff goes into the relcamator. **Oil gunk that B.F.I. collects is stored in the two underground tanks.**

The reclamator is located south of Fairview Avenue. Any outside spills in Area I are captured in the reclamator. The Sanitary District monitors the reclamator discharges.

In the oil recycle area, dirt is removed by settling or filtering of the oil.

Area II contains bermed storage tanks for resale items such as gasoline, stoddard solvent, xylene, toluene, paint thinner and fuel oil. No wastes are stored in this area. The loading rack areas and containment basin are immaculate.

Bob Kuczynski mentioned that standing water from the containment basin and occasionally, water from the reclamator is discharged to Kent Creek. He indicated that water from the reclamator is sampled before it goes to the creek. I considered these practices to be of minor concern but worthy of mention.

PL:mks

cc: Rockford Region

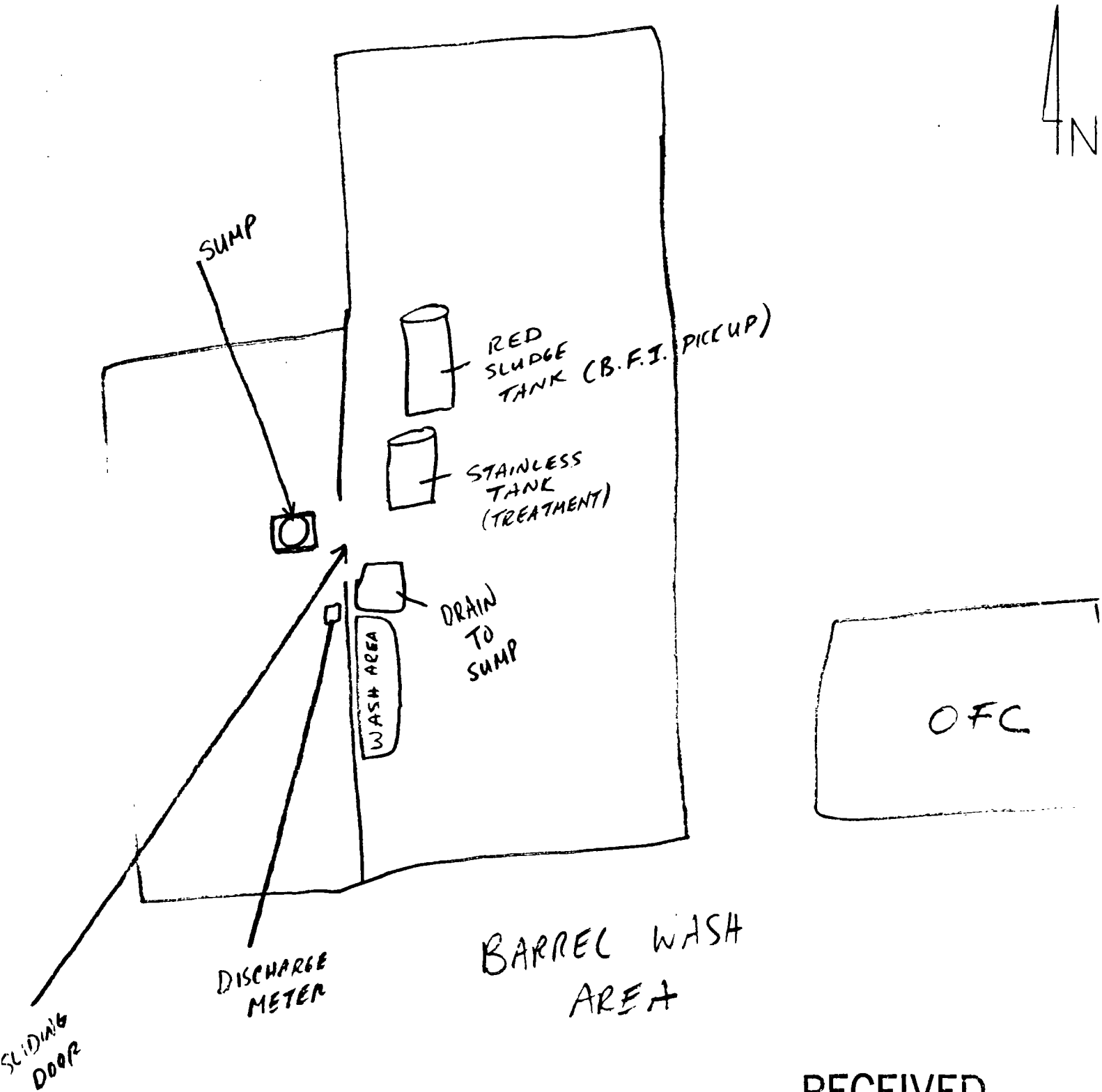
Attachment Site Sketch

WINNEBAGO - LPC

ROCKFORD / SMITH OIL CORPORATION

DATE: 9/22/81

TIME: 9-11A
PDL



SMITH OIL CORPORATION / 1100 KILBURN AVENUE, ROCKFORD, ILLINOIS / TELEPHONE 962-066

Smith Oil

logged in LJK 11/5/81

REFERENCE NUMBER 007

Illinois Environmental Protection Agency
Division of Land Pollution Control
Residual Management Section
2200 Churchill Road
Springfield, Illinois 62706

Attn: Sally Ann Smith

Dear Sally:

We are enclosing our application for a permit to develope a Waste Storage/Treatment Site. On September 22, 1981 a pre-developmental inspection was conducted by Pam LoPinto. I would appreciate anything you can do to expediate this permit.

I would like to take this opportunity to thank you for all the help you have given me on this matter.

If there are any questions, please do not hesitate to call.

Very truly yours,

SMITH OIL CORPORATION

William J. Timm
Operation Manager

WT:bb

RECEIVED
NOV 05 1981
ENVIRONMENTAL PROTECTION AGENCY
STATE OF ILLINOIS

APPLICATION FOR PERMIT TO DEVELOP A WASTE STORAGE/TREATMENT SITE

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter III 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

IV. Location Information

Attach a copy of the United States Geologic Survey (U.S.G.S.) quadrangle map (7.5 minute quadrangle, if published) and a topographic map of the area which contains the site. Also provide a legal description of the site.

Quadrangle map provided Rockford - North (Name) 1976 (Date)

_____ Acres in SE Quarter, _____ Quarter, _____ Quarter, of Section 15, Township 44 North, Range 1, _____ P.M.
Local Description: Lot _____, Block _____
Present Zoning Classification and Restrictions (if any) IH Heavy Industrial

V. Facility Background

(x) This is an existing operation begun Jan. (mo.) 1911 (yr.).
( ) This is a proposed operation.
( ) This is a proposed extension to an existing operation:
Illinois EPA Permit No. _____.
(x) Other Existing Environmental Facility Permits:

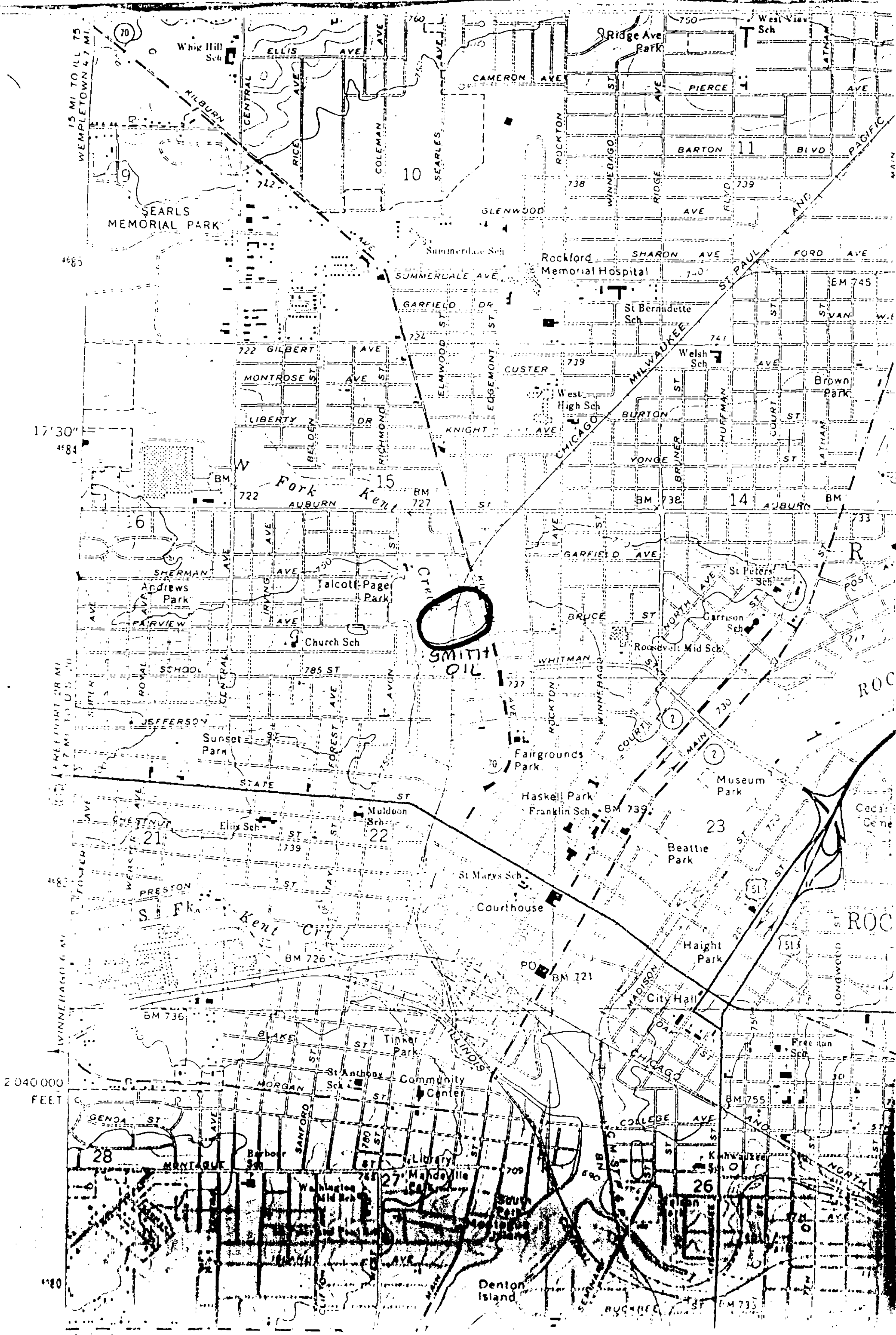
#791730	
#812396	
#SWH1068	

Consult instructions for the contents of Sections V, VI, VII, and VIII.

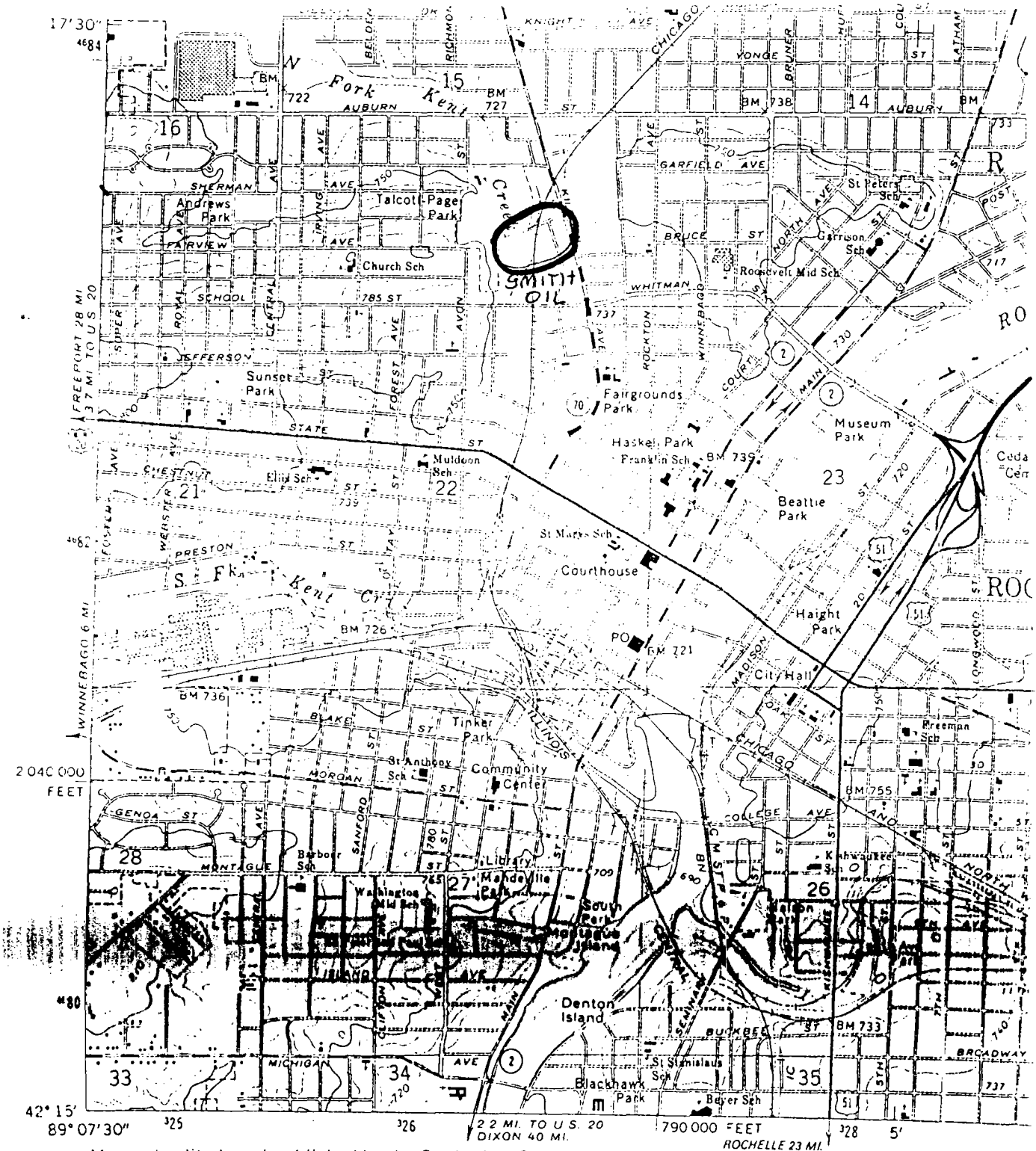
VI. Facility Information

The following documents must accompany the application (please indicate which documents are being submitted with this application by putting an "X" in the appropriate space).

x	1.	A plan sheet of the site. (See Exhibit 1A)
x	2.	A process flow diagram and process instrumentation diagram of storage/treatment operation. (See Exhibit 2A)
x	3.	A narrative description of the site's operation. (See Exhibit 3A)
x	4.	A description of analysis methods used to screen and test waste types.(see Exhibit 4A)
x	5.	A description of methods used to treat, transfer or dispose of (Hauled waste generated from the process/operation of the site.(under permit
x	6.	A detailed contingency plan or procedure.(See Manual) #812396)
x	7.	A description of inspection procedures.(See Manual & Log Book kept c
x	8.	A closure plan. (See Exhibit 7A) site)
x	9.	Land use information.(Zoned IH-Heavy Industrial)(See Exhibit 8A)



15 MI. TO ILL 75
WEMPLETOWN 4.7 MI.
Whig Hill Sch
ELLIS AVE
CAMERON AVE
Ridge Ave Park
West View Sch
PIERCE
KILBURN
CENTRAL
RICE
COLEMAN
SEARLES
ROCKTON
WINNEBAGO
RIDGE
BARTON
BLVD
PACIFIC
SEARLS MEMORIAL PARK
GLENWOOD
Summerdale Sch
SUMMERDALE AVE
Rockford Memorial Hospital
SHARON AVE
FORD AVE
ST PAUL
MILWAUKEE
CHICAGO
GARFIELD DR
St Bernadette Sch
GILBERT AVE
MONTROSE ST AVE
ELMWOOD
EDGEMONT
CUSTER
Welsh Sch
West High Sch
Brown Park
LIBERTY DR
BELDEN
RICHMOND
KNIGHT AVE
BURTON
BRUNER
HUFFMAN
COURT
LATHAM
YONGE
17'30"
N Fork Kent Cr
AUBURN ST
SHERMAN
Andrews Park
IRVING
Talcott Page Park
PARKVIEW
Church Sch
SMITH OIL
GARFIELD AVE
St Peters Sch
NORTH AVE
BRUCE ST
Garrison Sch
Roosevelt Mid Sch
SCHOOL
ROYAL
785 ST
WHITMAN
AVON
FREEPORT 28 MI
TO U.S. 20
JEFFERSON
Sunset Park
FOREST
Fairgrounds Park
COURT
MAIN
Museum Park
STATE ST
Muldoon Sch
Haskell Park
Franklin Sch
CHESTNUT
Ellis Sch
Beattie Park
Cedar Cemetery
PRESTON
WEBSTER
St Marys Sch
Courthouse
S Fk Kent Cr
Haight Park
ROC
LONGWOOD
PO
BM 721
BM 726
BM 736
City Hall
MADISON
OAK
BLAKE ST
Tinker Park
ILLINOIS
CHICAGO
Freeman Sch
St Anthony Sch
Community Center
MORGAN
2 040 000 FEET
GENOA ST
SANFORD
COLLEGE AVE
NORTH
Barbour Sch
Library
MONTAGUE
Mandeville Park
Kishwaukee Sch
Washington Mid Sch
Denton Island
CLIFTON
WINNEBAGO 6 MI



Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

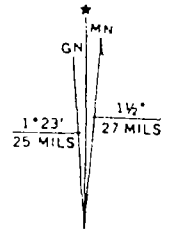
Topography by photogrammetric methods from aerial photographs taken 1970. Field checked 1971
Supersedes Rockford map dated 1949

Projection and 10,000-foot grid ticks: Illinois coordinate system, west zone (transverse Mercator)
1000-meter Universal Transverse Mercator grid ticks, zone 16, shown in blue. 1927 North American datum

Red tint indicates areas in which only landmark buildings are shown

Fence and dashed lines indicate selected fence and field lines where [illegible] visible on aerial photographs. This information is unchecked

[illegible] shown in purple compiled from aerial photographs
[illegible] information not field checked
[illegible] extension of urban areas



UTM GRID AND 1976 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

Rockford North Quadrangle

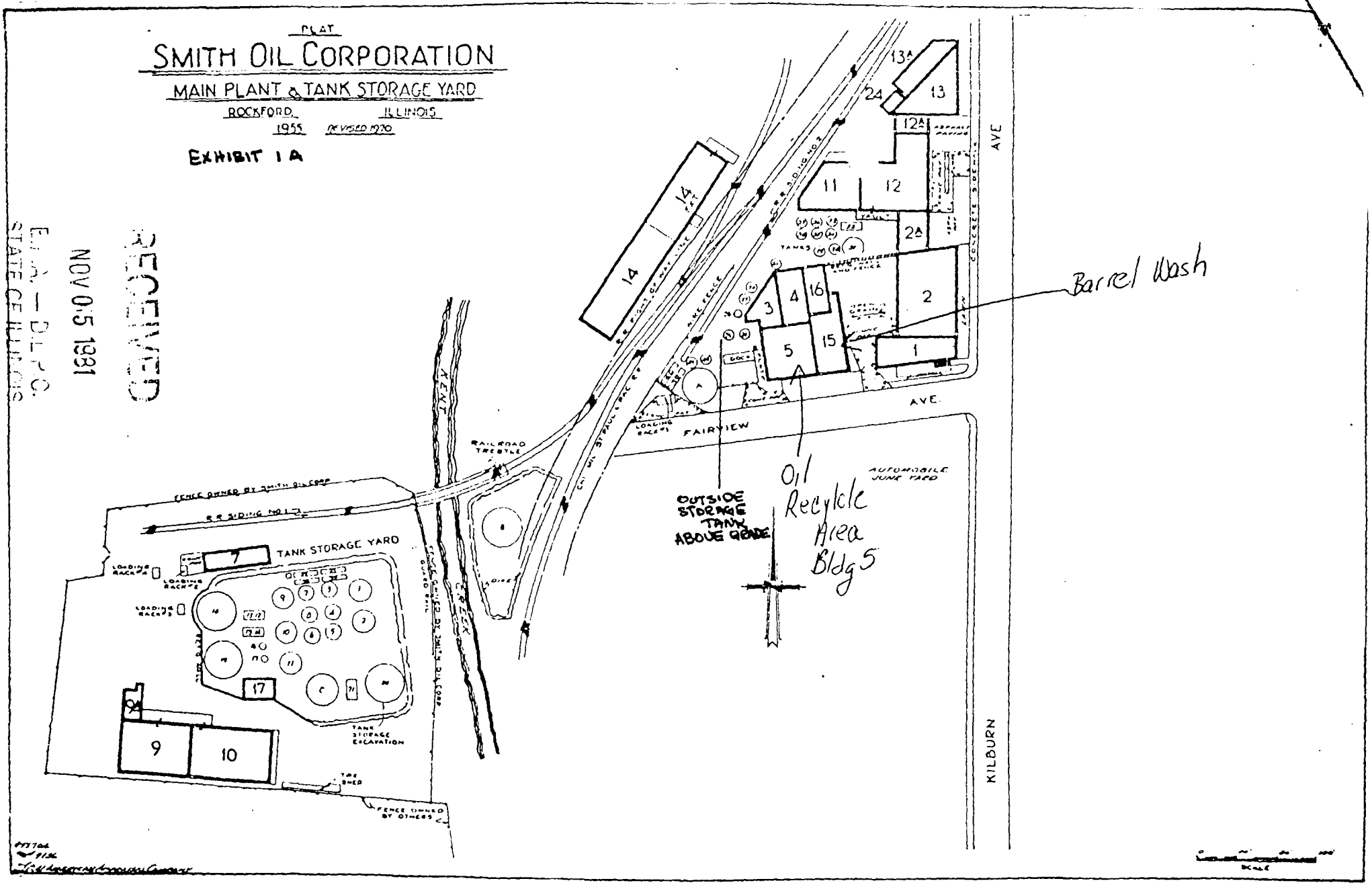

PLAT
SMITH OIL CORPORATION
MAIN PLANT & TANK STORAGE YARD
ROCKFORD ILLINOIS
1955 REVISED 1970
EXHIBIT 1A
RECEIVED
NOV 05 1981
EPA — DLPC
STATE OF ILLINOIS
Barrel Wash
Oil Recycle Area Bldg 5
OUTSIDE STORAGE TANK ABOVE GRADE
TANK STORAGE YARD
FENCE OWNED BY SMITH OIL CORP
R.R. SIDING NO 1
RAILROAD TRESTLE
FAIRVIEW AVE.
KILBURN AVE
AUTOMOBILE JUNK YARD
CONCRETE SIDEWALK
LOADING RACKS
TANK STORAGE EXCAVATION
FENCE OWNED BY OTHERS
13A
13
24
12A
12
11
14
14 EXT
2A
2
16
4
3
5
15
1
9
10
17

EXHIBIT 2A

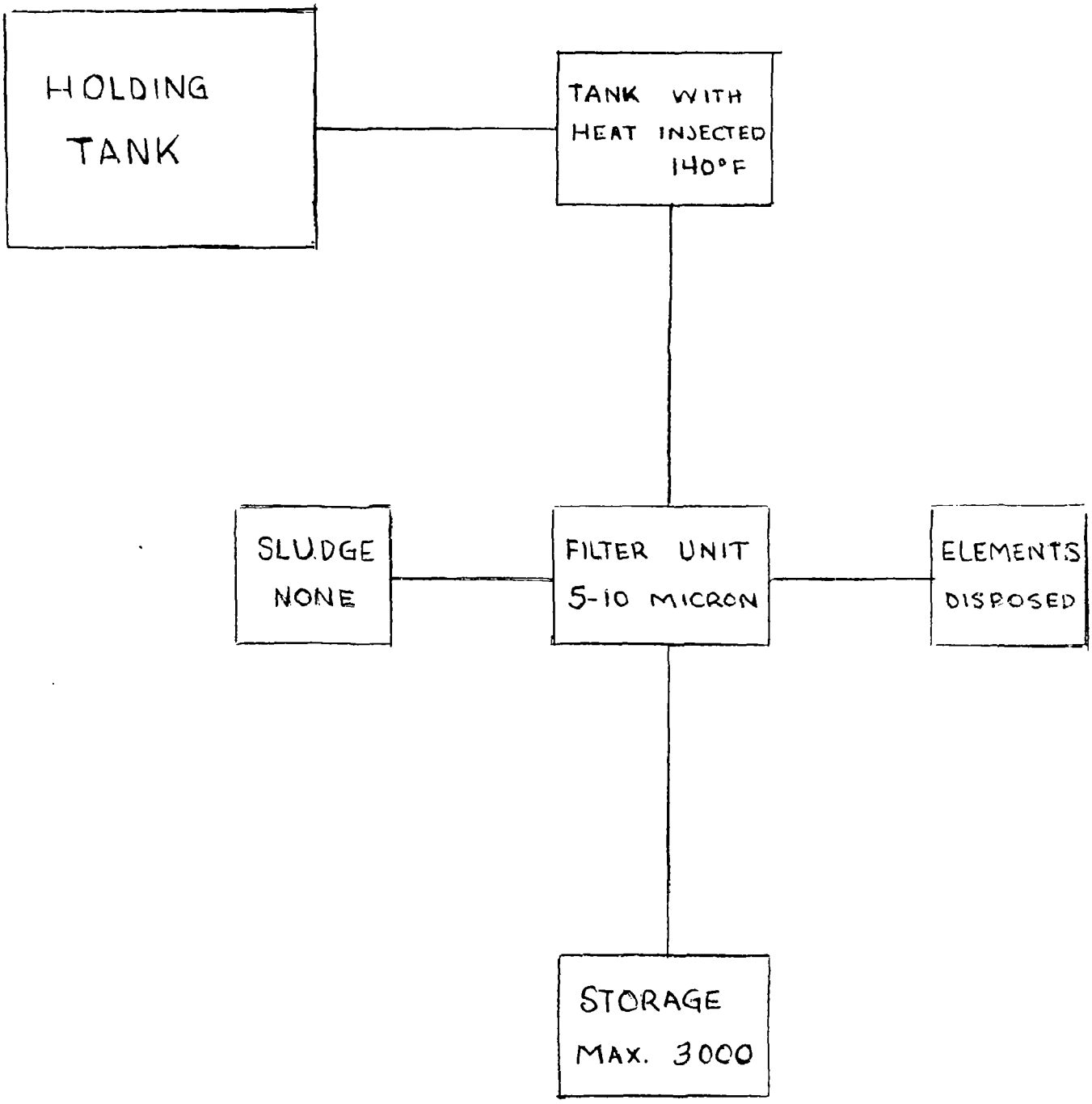


EXHIBIT 3A.

The oil being reprocessed is a combination of hydraulic oil and machine oil. This oil is picked up and placed in storage. Then when required, the oil is taken from the storage tank and filtered and is resold for cutting oil. Oil that has been filtered remains in storage for a maximum of 30 - 45 days. Maximum yearly usage is approximately 12,000 gallons. The reason for the filtering is to remove moisture and dirt contamination. Moisture and dirt content in the above process is less then 1%.

The above is a batch operation.

Operation hours of the above process are very limited due to the fact that we only process approximately 12,000 gallons a year.

The blend plant supervisor is a person directly responsible for this operation. This is done inside the blend plant building.

The holding tank for this product is located outside the blend plant building. The product is then pumped from the holding tank how big? to a tank that holds approximately 800 gallons. This tank is heated and is then pumped to another tank; size of tank 250 gallons and is heated to 140 F. After it is heated it goes through a filtered unit set to handle 5 - 10 microns. The oil is completely filtered and pumped into 3,000 gallon storage tank to be resold.

Equipment used in this process consists of a 800 gallon holding tank, heated by steam. A 250 gallon tank heated by a heating element; a Harvard Corporation filter model 87, seriel #1233 operating under 80 PSI.

EXHIBIT 4A

Waste tested by center fuge to determine moisture and contamination.

If moisture is above trace, product is rejected.

If metal contamination is above ½%, product is rejected.

Flash point is checked on all waste.(min.300°F)

The above tests are all completed before any waste is transferred to our storage facilties.

EXHIBIT 7A.

A Closure Plan

In the event of a closing of this site it would be necessary to notify our customer that we would no longer accept this product from them. It would also be necessary that the equipment used for this process be disconnected and taken out of normal use. The dedicated tank used for this process would be emptied at this time and would necessitate a complete cleaning of this tank and lines which are used to move this product.

Notification would be sent to State and Federal agencies.

EXHIBIT 8A.

Smith Oil Corporation is located in a heavy industrial zoning area. This company was started in January 1911, and has shown considerable growth since that time. Giving consideration to the plant structures, warehouse, etc., it will probably remain a heavy industrial location. It's surrounding neighbors are also made up of industry with the property immediately south and north being further developed as heavy industrial, and a extensive building program is now under way. Smith Oil facilties are well maintained and kept in good repair. It is our intent to continue to improve its appearence.

Safety, health and security measures are constantly being checked and updated; in order that we may properly serve our employees and community.

Zoning changes in this area have been made and businesses are continuing to grow in the area which is causing property values to increase.

Smith Oil Corporation, due to its petroleum product business, has installed a reclamator and all drains located in loading, unloading and blend plant areas are tied into this in order to contain even the smallest spill. Reclamator and sewer discharge are regulated and constantly monitored by Rockford Sanitary District. Smith Oil has and will continue to monitor very closely and to work with State and Federal agencies making sure this operation meets all requirements.

EXHIBIT 9A

Enclosed is a drawing of the outside storage tank used to hold hydraulic oil and machine oil which is treated inside our bulk plant. The capacity of the tank is 15,453 gallons. This is a verticle tank with dimensions of 10' 6" O.D. x 24' high.

Structure of this tank is as follows:

Bottom thickness 3/8 inches.

This tank is a riveted tank made up of four (4) sections. The bottom section is 5/16 inch thick. The second section is ¼ inch thick. The remaining two (2) top sections are 3/16 inch thick. The top portion of the tank or cover cannot be measured. We assume that the top is also 3/16 due to the fact that the two (2) top layers are 3/16 inch thick. This tank sets on ground level. It has a dome top with a 2" vent. It is also equiped with a man hole on the bottom section measuring 2 feet 1 inch.

The tank is equiped with a gauge located on the outside of the tank. This tank is equiped with a frost valve. There our two (2) pipes connecting the tank to the blend plant. Both pipes have shut off valves and fire valves. This main line is a three inch line hooked up to a header inside the blend plant. This tank is approximately twenty years old due to the fact that it is riveted. No records are available to substantiate this assumption.

All storage tanks of this company are well maintained and kept in good condition; painting, repairs and etc. Their are no leaks in this system.

EXHIBIT 10A.

Continuous filtration process that is checked by Smith Oil Laboratory to determine when all solid material is removed. This filtered unit is set to handle 5 - 10 microns and uses eight (8) filter elements for the process.

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

Vicky

1. The following service is requested (check one.)
- ☐ Show to whom and date delivered..... ¢
- ☑ Show to whom, date and address of delivery... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Smith Oil Corporation H. J. Vaughn Pres.
P. O. Box 12500
St Louis, Missouri 63141

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	155584	

(Always obtain signature of addressee or agent)

I have received the article described above
SIGNATURE ☐Addressee ☐Authorized agent

K. Mueller

4. DATE OF DELIVERY — POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE — CLERK'S INITIALS

DW

☆GPO 1979-288-848

PS Form 3811, Jan. 1978

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

● SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

Vicky

1. The following service is requested (check one.)
- ☐ Show to whom and date delivered..... ¢
- ☑ Show to whom, date and address of delivery... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- ☐ RESTRICTED DELIVERY
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Smith Oil Corp. D. E. Harold Vice Pres.
1100 Kilbourn Ave.
Rockford Ill. 61101

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	155585	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

Kathi Bondio

4. DATE OF DELIVERY — POSTMARK

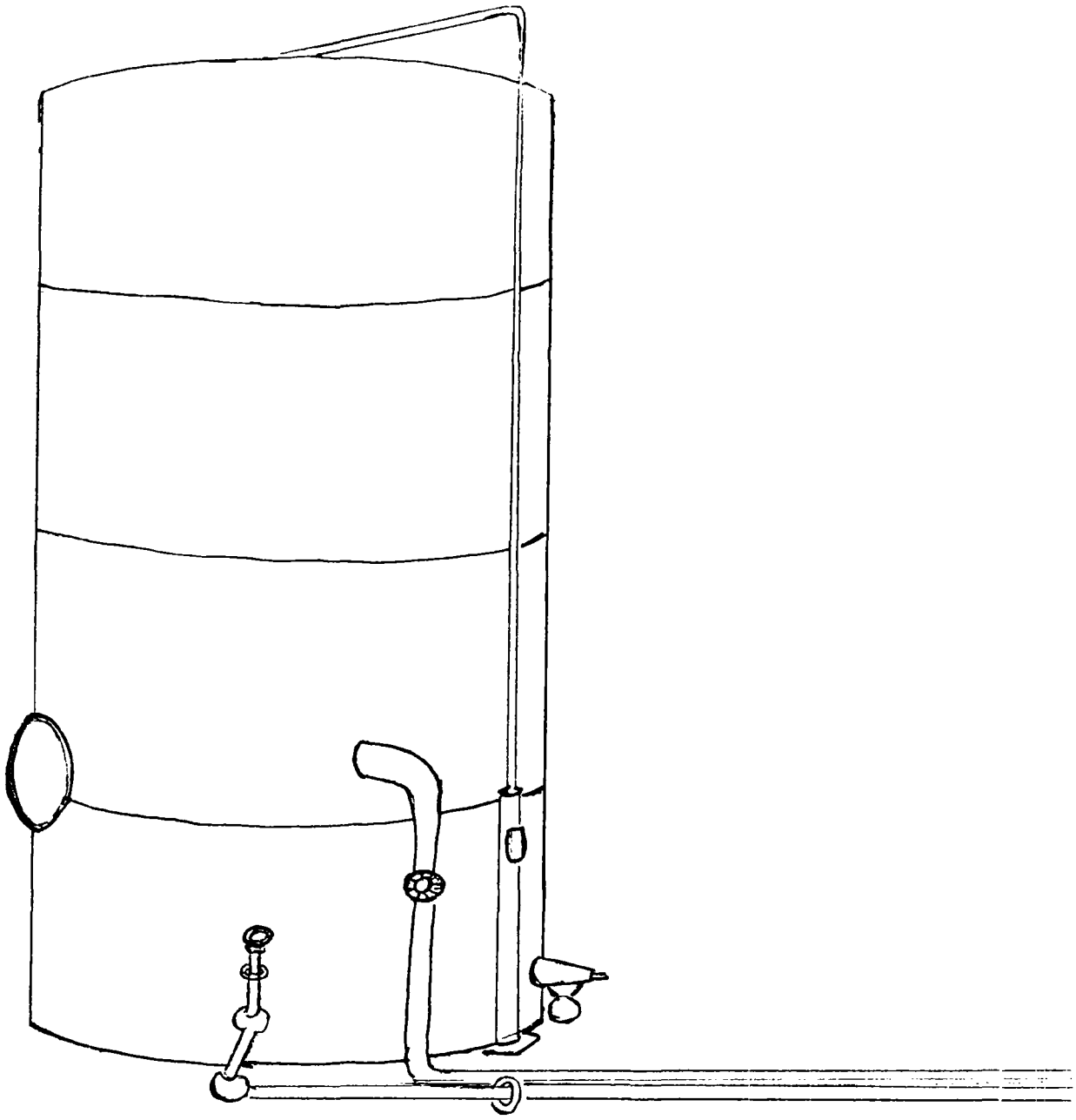
FEB 3 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

☆GPO : 1979-288-848

EXHIBIT 9B.



SMITH OIL CORPORATION / 1100 KILBURN AVENUE, ROCKFORD, ILLINOIS / TELEPHONE 962-066

Smith Oil

REFERENCE NUMBER 008

January 12, 1982

Environmental Protection Agency
% Sallie Anne Smith
Division of Land/Noise Pollution Control
2200 Churchill Road
Springfield, Illinois 62706

Re: Supplement

Dear Sallie:

This is addtional information that we are providing you for our permit to develop and operate a Storage/ Treatment facility.

We will be picking up from local industries in the Rockford area two types of product. They are as follows:

Stoddard Solvent and Mineral Spirits contaminated with oil(spent), chlorinated products, trichlorethylene and chlorethene and trichlorethane(spent).

Storage of the product will be in poly drums which are D.O.T. approved. **Maximum storage will be forty (40) drums to be stored inside our building** listed as Area 13A on our enclosed plat plan. This product will be picked up by our company truck and be transferred again by our truck to Safety Kleen Industries, Elgin, Illinois by our truck for processing.

The handling of product on our location will be done by lift trucks equiped with **barrel grabbers.** All containers will be placed on skids - four (4) to a skid and will be one (1) high only. A designated area inside Area 12A has been set aside for this product. Spill containment is already provided in this area due to the fact that industrial oil and grease is stored in this area at the present time. Brooms, mops, shovels and oil-dri is located inside this area in case of spill.

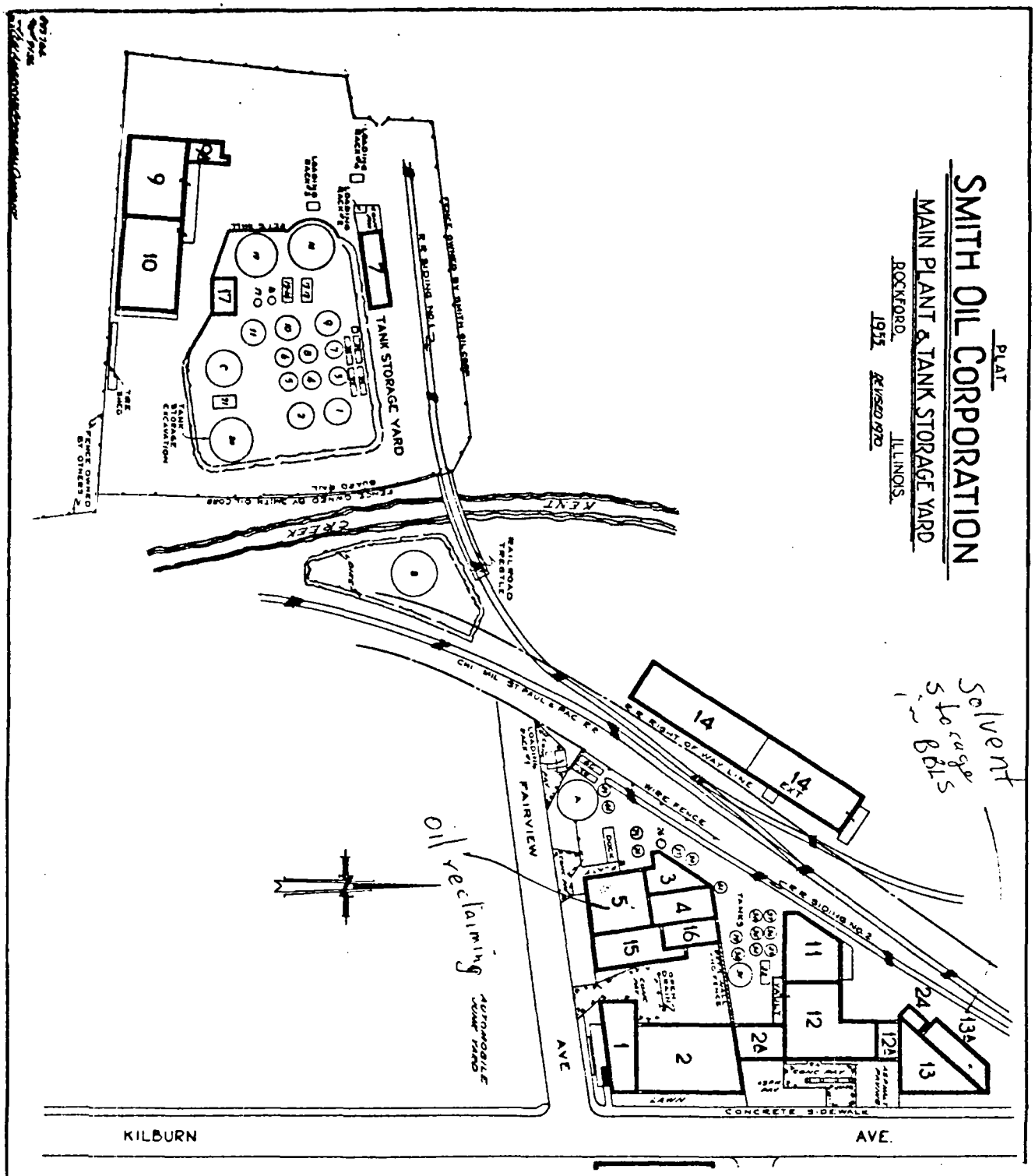
Security system is also located in this area for fire and break-in. All Smith Oil employees have been trained and are provided a manual which is reviewed perodically regarding hazardous and special waste.

If there are any additional questions in regard to this matter, please contact me at Smith Oil Corporation, 1100 Kilburn Avenue, Rockford, Illinois - 61101. Our telephone number is (815)962-0661.

Very truly yours,

William J. Timm
Operation Manager

WT:bb



Ok'd/Bill Seltzer & Scott Phillips per siting 1/27/82

CERTIFIED MAIL

Department of Community Development

City of Rockford

John F. McNamara/Mayor

REFERENCE NUMBER 009

January 13, 1982

Ms. Sallie Anne Smith
Environmental Protection Specialist
Residual Management Section
Division of Land/Noise Pollution Control
2220 Churchill Road
Springfield, Illinois 62706

Dear Ms. Smith:

This is with reference to the application of Smith Oil Corporation, 1100 Kilburn Avenue, Rockford, Illinois, which is for a permit to develop a waste storage/treatment site on their property situated at 1100 Kilburn Avenue. The property is located within the City of Rockford, Illinois, and is shown on Exhibit 1A to the application filed by Smith Oil Corporation with the Illinois Environmental Protection Agency.

The property described in said Exhibit 1A to the Smith Oil Corporation application is in the "IH", Heavy Industrial Zoning District, which is contained in Section 1102 of the City of Rockford Zoning Ordinance, pertinent subsections of which read as follows:

1102.3.B	Production, processing, cleaning, servicing, testing, and repair, including the following uses and manufacturing of the following products:
1102.3.B.13	Petroleum products, refining -- such as gasoline, kerosene, naptha, lubricating oil, and liquified petroleum gases.
1102.3.C	Storage, including the following uses and materials or products:
1102.3.C.5	Petroleum and petroleum products.

(continued)

John Phillips / Coordinator William Johannsen / Zoning Officer
Zoning Division / 425 East State Street / Rockford, Illinois 61104 / 815-987-5585

Based upon the foregoing provisions of the City of Rockford Zoning Ordinance, I hereby certify that Smith Oil Corporation has or will be able to secure all necessary zoning approvals from the City of Rockford, the unit of local government having zoning jurisdiction over the proposed Smith Oil Corporation facility at 1100 Kilburn Avenue, to develop a waste storage/treatment site for petroleum products on their premises, and that I, the undersigned, have authority to issue zoning certification on behalf of the City of Rockford, Illinois.

Sincerely yours,

William Johannsen

William Johannsen
Zoning Officer

WJ/jh

copies to: Mr. D. E. Harold
Smith Oil Corporation
1100 Kilburn Avenue
Rockford, IL 61103

Mr. Armour T. Beckstrand
Attorney-At-Law
728 North Prospect
Rockford, IL 61104

ILLINOIS EPA

Environmental Protection Agency

2200 Churchill Road, Springfield, Illinois 62706

DE

REFERENCE NUMBER 010

217/782-6760

Refer to: Winnebago County -- Rockford/Smith Oil
Permit #1982-1-DE

February 2, 1982

Smith Oil Corporation
D.E. Harold, Vice-President
1100 Kilbourn Avenue
Rockford, Illinois 61101

Smith Oil Corporation
H. J. Vaughn, President
Post Office Box 12500
St. Louis, Missouri 63141

Gentlemen:

Permit is hereby granted to Smith Oil Corporation, D.E. Harold, Vice-President, and H. J. Vaughn, President, as owners and operators, to develop a waste management facility on a portion of the property described as 1100 Kilbourn Avenue, in the NE 1/4, Section 15, T.44N., R.1E., 3rd P.M., to store and recycle waste oils and to store solvents, all in accordance with the application prepared by Howard L. Schmidt, P.E. and William J. Timm; said application consisting of thirty-seven pages (including plan sheets) undated, and received by the Agency November 5, 1981, three pages prepared by William J. Timm dated January 12, 1982 and received January 19, 1982, and two pages prepared by the Rockford Department of Community Development dated January 12, 1982 and received January 19, 1982.

This permit is subject to the standard conditions set forth on page 4, attached hereto and incorprated herein by reference, and further subject to the following special conditions:

1. This is a development permit. This is not a permit to operate. Apply for an operating permit by writing a brief letter requesting same. An operating permit is necessary to be in full compliance with this Division.

2. This facility shall be developed and operated in accordance with Chapters 2, 3, 7 and 9 of the Illinois Pollution Control Board Rules and Regulations.

3. Special wastes received at the site for recovery shall be transported to the facility utilizing the Agency's supplemental permit system and manifest system at the site for storage or for recovery.

4. Special wastes generated at the site for disposal, incineration or further treatment elsewhere shall be transported to the receiving facility utilizing the Agency's supplemental permit system and manifest system.

5. This permit is subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Environmental Protection Act, and all applicable environmental rules and regulations.

6. This permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities. If such discharge occurs, additional or alternate facilities shall be provided. The construction of such additional or alternate facilities may not be started until a permit for their construction has been issued by the Agency.

7. Drums of flammable wastes and flammable materials shall be stored according to existing State Fire Prevention Regulations.

8. This permit allows for the development of a facility to recover waste oils and to store spent solvents.

9. All loading/unloading of special wastes shall be accomplished over spill containment devices.

10. The Agency reserves the right to require the installation and monitoring of a ground water monitoring system, to require analyses for certain parameters and to alter parameters as necessary to fulfill the intent and purpose of the Environmental Protection Act.

11. This permit allows a maximum volume of forty drums of solvent to be stored in Building 13A at the facility at any time.

12. This permit allows a maximum volume of 19,550 gallons of waste oils plus treated oils to be stored in Building 5A and in the receiving tank at the facility at any time.

13. This facility is permitted to receive waste oils with these listed parameters within the following limits:

a.	Moisture	Trace
b.	Metals	0.5%
c.	Flash Point	300°F.

14. This permit allows receipt of waste oils and spent solvents generated within the corporate limits of the City of Rockford, Illinois only. Prior to receipt of waste oil or spent solvent from other than the City of Rockford, local siting approval (pursuant to Section 39.1 of the Environmental Protection Act, as amended) must be obtained and submitted to this office as part of an application for permit to modify site operation.

15. Any modification to the facility, treatment prdcess, types or amounts of wastes handled shall be the subject of an application for supplemental permit for site modification submitted to this Agency.

Very truly yours,

Thomas E. Cavanagh, Jr., Manager
Residual Management Section
Division of Land/Noise Pollution Control

TEC:SAS:mad/10-11

Attachment

cc: APC -- Permit Section
WPC -- Permit Section
Rockford Regional Office
Special Waste Unit

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 1, 1979

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Divisions of Water Pollution Control, Air Pollution Control, Public Water Supplies, and Land and Noise Pollution Control. Special conditions may also be imposed by the separate divisions in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year after date of issuance unless construction or development on this project has started on or prior to that date.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:

   a. to enter at reasonable times the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.

   b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.

   c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

REFERENCE NUMBER 011

MEMORANDUM

RECEIVED

MAR 11 1982

E.P.A. — D.L.P.C.
STATE OF ILLINOIS

DATE: March 4, 1982

TO: Division File

FROM: Pamela D. LoPinto

SUBJECT: 20103040 - Winnebago County - Rockford/Smith Oil - Permit #1982-1-DE
Pre-operational Inspection

Bob Wengrow and I met with Bill Timm to conduct a pre-operational inspection of this facility which presently recycles waste oils and stores product solvents. Bob Kuczynski, Maintenance Engineer, joined us during the tour of the facility. In Bill Timm's office the following information was obtained:

1) Waste oils with flash point below 300°F will not be accepted.
2) Barrels washed at Smith Oil belong to Smith Oil and will be refilled with product for distribution.
3) The supplemental permit and manifest systems are presently being utilized for outgoing but not incoming wastes. Cleaning solution (water with some waste oil in it) and tank cleaning sludges are disposed of at Davis Junction/BFI. Manifests were reviewed for these outgoing wastes. Timm said he will get supplementals and use the manifest system after Smith Oil receives its operating permit from LPC.
4) No spent solvent will be stored on site until an operating permit is granted. A maximum of 40 drums will be stored on site at any time for transport to Elgin/Safety Kleen. Timm may transport but not store wastes generated outside of Rockford to avoid being considered a regional pollution control facility.
5) Smith Oil has one special waste hauling permit for bulk waste oil transport and Timm is applying to register two more trucks to haul hazardous waste in drums.

During the tour we observed the boilers, barrel wash area, oil filtering area(Rockford Products oil), proposed hazardous waste storage area, lab, oil warehouse, and bulk oil & gas storage area. No deviations from submitted information ~~was~~ were observed in the barrel wash, oil filtering or waste oil storage areas.

Bob Godare, DAPC/FOS was informed that Smith Oil burns waste oil, from Gales Waste Oil Serivce, mixed with #5 fuel oil in their boiler and Bob said that he would check with his permit section to see if there were any requirements from DAPC.

The site again impressed me as being clean, orderly, and conscienciously managed.

cc: Sallie Smith - Permit Section
Rockford Region
Jim Reid - FOS Manager
Bob Godare - DAPC
Mr. Bill Timm - Smith Oil

OOD INSURANCE STUDY

REFERENCE NUMBER 0 1 2

ITY OF ROCKFORD,
LLINOIS
WINNEBAGO COUNTY

JUNE 1978

PARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
North Kent Creek (Continued)								
B	3,[illegible]	[illegible]	502	3.6	706.8	706.8	706.9	0.1
C	3,[illegible]	[illegible]	[illegible]	3.2	707.1	707.1	707.2	0.1
D	3,[illegible]	[illegible]	[illegible]	3.9	707.3	707.3	707.4	0.1
E	4,[illegible]	61	338	5.3	707.3	707.3	707.4	0.1
F	4,[illegible]	60	306	5.9	707.5	707.5	707.6	0.1
G	4,[illegible]	60	329	5.5	708.2	708.2	708.3	0.1
H	5,[illegible]	41	250	7.2	708.8	708.8	708.9	0.1
I	5,[illegible]	64	413	4.2	710.3	710.3	710.4	0.1
J	[illegible],11	[illegible]	[illegible]	5.4	710.4	710.4	710.5	0.1
K	6,31	[illegible]	320	5.4	710.6	710.6	710.7	0.1
L	6,61[illegible]	[illegible]	[illegible]	6.1	711.0	711.0	711.1	0.1
M	6,8[illegible]	54	326	5.4	711.5	711.5	711.6	0.1
N	7,2[illegible]	134	893	4.4	712.0	712.0	712.1	0.1
O	7,700	66	333	5.2	712.7	712.7	712.8	0.1
P	8,55[illegible]	66	358	4.9	713.8	713.8	713.8	0.0
Q	8,75[illegible]	63	352	4.9	714.0	714.0	714.1	0.1
R	9,2[illegible]	40	320	5.4	714.9	714.9	715.0	0.1
S	9,790	53	347	4.9	715.5	715.5	715.6	0.1

[1]Feet above confluence with Rock River

RECEIVED
MAR 08 1982

TABLE 2

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF ROCKFORD, IL
(WINNEBAGO CO.)

FLOODWAY DATA

NORTH KENT CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FT.)	SECTION AREA (SQ. FT.)	MEAN VELOCITY (F.P.S.)	REGULATORY (NGVD)	WITHOUT FLOODWAY (NGVD)	WITH FLOODWAY (NGVD)	INCREASE (FEET)
North Kent Creek								
	10,340	183	568	3.0	716.1	716.1	716.2	0.1
	[illegible]	49	382	4.5	716.3	716.3	716.4	0.1
	11,630	61	541	3.2	717.4	717.4	717.5	0.1
	[illegible]	68	389	4.4	718.1	718.1	718.2	0.1
	[illegible]	264	807	1.8	718.8	718.8	718.9	0.1
	[illegible]	75	357	4.1	719.2	719.2	719.3	0.1
	[illegible]	270	563	2.6	721.1	721.1	721.2	0.1
	[illegible]	1,1	1,335	1.1	723.5	723.5	723.6	0.1
AB	[illegible]	45	238	5.3	732.9	732.9	733.0	0.1

[1]Feet above confluence with Rock River

TABLE

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF ROCKFORD, IL
[illegible]

FLOODWAY DATA

NORTH KENT CREEK

ELEVATION IN FEET (NGVD)

695 710 730

CONFLUENCE WITH SOUTH KENT CREEK

ILLINOIS CENTRAL GULF RAILROAD

WINNEBAGO STREET (HIGH LEVEL BRIDGE)

CHICAGO, MILWAUKEE, ST PAUL AND PACIFIC RAILROAD

BURLINGTON NORTHERN RAILROAD

CEDAR STREET

CHICAGO, MILWAUKEE, ST. PAUL AND PACIFIC RAILROAD

ELM STREET

STATE STREET

MULBERRY STREET

WEST JEFFERSON STREET

CHICAGO, MILWAUKEE ST PAUL AND PACIFIC RAILROAD

SCHOOL STREET

REACH 11 ZONE AE

CHICAGO, MILWAUKEE, ST PAUL AND PACIFIC RAILROAD

CHICAGO, MILWAUKEE, ST PAUL AND PACIFIC RAILROAD

ARTHUR AVENUE

AUBURN AVENUE

NORTHWEST TRIBUTARY

CENTRAL AVENUE

20 30 40 50 60 70 80 90 100 110 120 130 140 150

A B C D E F G H I K L M N O P Q R S T U V W X Y

LEGEND

500 YEAR FLOOD

100 YEAR FLOOD

50 YEAR FLOOD

10 YEAR FLOOD

STREAM BED

CROSS SECTION LOCATION

SCALE: 1 INCH = 100 FEET HORIZONTAL; 1 INCH = 10 FEET VERTICAL WITH ROCK RIVER

14P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

CITY OF ROCKFORD, IL
(WINNEBAGO CO.)

FLOOD PROFILES

NORTH KENT CREEK

PART-PLATE 6, CITY OF ROCKFORD
FLOOD INSURANCE STUDY

LIBERTY
AIRLINE
BELDEN
VERMONT
DRIVE
AVENUE
PARKSIDE
AVENUE
PARKSIDE
NORTH
STREET
RICHMOND
STREET
AVENUE
WALLIN
AVENUE
AUBURN
STREET
TAYLOR
STREET
FILMORE
STREET
BLUEFIELD
STREET
ARTHUR
STREET
AVON
STREET
RM6
KENT
STREET
RUSSELL AVENUE
TAYLOR STREET
SHERMAN
AVENUE
AVENUE
ABELL
AVENUE
RM7
KILBURN
AVENUE
AND
ST. PAUL
CREEK
CHICAGO,
MILWAUKEE,
FAIRVIEW
AVENUE
RM8
RM9
RM10
100 YEAR FLOOD LIMIT
FLOODWAY LIMIT
SCHOOL
STREET
STREET
STREET
ANDREWS
STREET
UNDERWOOD
NESS
COURT
MAPLE
STREET
LEE
ACORN
STREET
JEFFERSON
STREET
WEST
JEFFERSON
AVENUE
STREET
OGDEN
AVON
STREET
MULBERRY
STREET
WEST JEFFERSON
STREET
WHITMAN
STREET
ROCKTON
STREET
WINNEBAGO
AVENUE
70

ROCKFORD PARENT GROUP FOR MENTALLY RETARDED CHILDREN
1109-135
2.14 A

PAGE TALCOTT PARK
19.59 A
437-165
EXEMPT

PARK
411-533

SEE PAGE 195 C

PARK
682-561

ROCKFORD PARK DIST.
2.69 A
313-296

CITY OF ROCKFORD

SMITH OIL
1302-545

SMITH OIL
295-499
66-09-1756

EW SCHMELING
6.15 A

W SCHMELING
739-279
1.14 A

SMITH OIL
1277-050

SMITH OIL
1344-309

SMITH OIL
1.6 A
17-1442

-669A
PUBLIC QUARRY

FAIRVIEW AVE

JAY ST

LEE ST

KILBURN ST

AVON ST

SCHOOL ST

IMPROVEMENT

SEE PAGE 202 A

PT. COUNTY CLERK'S PLAT

PT. COUNTY CLERK'S PLAT

GARFIELD PARK
2.21 A

HOLMES ADD.

CARRICO'S SUB.

FLORY'S SUB.

BLAISDELL'S SUB.

HORSEMAN'S SUB.

BRUCE ST

ROCKTON AVE

SEE PAGE 194 C

SCALE
0 100 200'

SUPERVISORS' ASSESSMENT MAP
COPYRIGHT
WINNEBAGO COUNTY
MAP DEPARTMENT

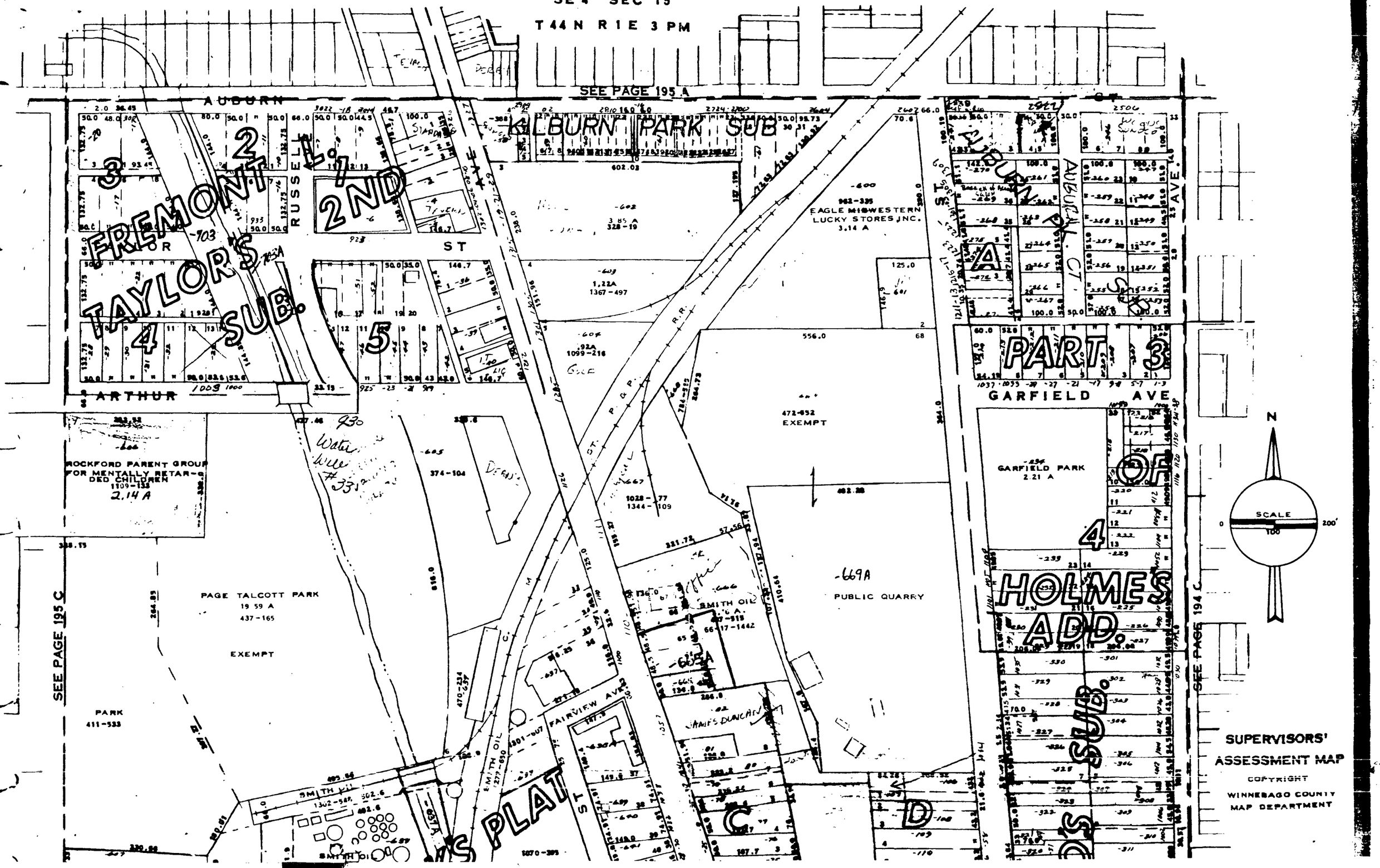
A ROURKE & WISHARD RESUB.
B PALE'S SUB.
C SUB. OF PART OF E 1/2, S F 1/4 SEC. 15
D ASSESSOR'S PLAT
E PT. OF HORSEMAN & BLAISDELL'S ADD.
F CARRICO'S 2ND SUB.

REVISIONS
DATE APPROVAL
RAP
CORRECTIONS
N.W URBAN RENEWAL

ROCKFORD TOWNSHIP

SE 4 SEC 15

T 44 N R 1 E 3 PM



RECEIVED

MAR 16 1982

Environmental Protection Agency
Division of Water Pollution Control
Permit Section-Springfield
State of Illinois

WPC - Permit Mgr

BM

File

217/782-6760

REFERENCE NUMBER 013

Refer to: 20103040 -- Winnebago County -- Rockford/Smith Oil
Permit #1982-1-OP

March 16, 1982

Smith Oil Corporation
D. E. Harold, Vice-President
1100 Kilbourn Avenue
Rockford, Illinois 61101

Smith Oil Corporation
H. J. Vaughn, President
Post Office Box 12500
St. Louis, Missouri 63141

Gentlemen:

Permit is hereby granted to Smith Oil Corporation, D. E. Harold, Vice-President, and H. J. Vaughn, President, as owners and operators, to operate a waste management facility on a portion of the property described as 1100 Kilbourn Avenue, in the Northeast 1/4, Section 15, Township 44 North, Range 1 East, 3rd Principal Meridian, to store and recycle waste oils and to store solvents, all in accordance with the application prepared by Howard L. Schmidt, P.E. and William J. Timm; said application consisting of thirty-seven pages (including plan sheets) undated, and received by the Agency November 5, 1981, three pages prepared by William J. Timm dated January 12, 1982 and received January 19, 1982, two pages prepared by the Rockford Department of Community Development dated January 12, 1982 and received January 19, 1982, and application for operating permit consisting of one page dated February 4, 1982 and received February 8, 1982.

This permit is subject to the standard conditions set forth on page 4, attached hereto and incorporated herein by reference, and further subject to the following special conditions:

1. This facility shall be developed and operated in accordance with Chapters 2, 3, 7 and 9 of the Illinois Pollution Control Board Rules and Regulations.

2. Special wastes received at the site for storage or for recovery shall be transported to the facility utilizing the Agency's supplemental permit system and manifest system.

3. Special wastes generated at the site for disposal, incineration or further treatment elsewhere shall be transported to the receiving facility utilizing the Agency's supplemental permit system and manifest system.

4. This permit is subject to review and modification by the Agency as deemed necessary to fulfill the intent and purpose of the Environmental Protection Act, and all applicable environmental rules and regulations.

5. This permit is issued with the expressed understanding that no process discharge to Waters of the State or to a sanitary sewer will occur from these facilities. If such discharge occurs, additional or alternate facilities shall be provided. The construction of such additional or alternate facilities may not be started until a permit for their construction has been issued by the Agency.

6. Drums of flammable wastes and flammable materials shall be stored according to existing State Fire Prevention Regulations.

7. This permit allows for the development and operation of a facility to recovery waste oils and to store spent solvents.

8. All loading/unloading of special wastes shall be accomplished over spill containment devices.

9. The Agency reserves the right to require the installation and monitoring of a ground water monitoring system, to require analyses for certain parameters and to alter parameters as necessary to fulfill the intent and purpose of the Environmental Protection Act.

10. This permit allows a maximum volume of forty drums of spent solvent to be stored in Building 13A at the facility at any time.

11. This permit allows a maximum volume of 19,550 gallons of waste oils plus treated oils to be stored in Building 5A and in the receiving tank at the facility at any time.

12. This facility is permitted to receive waste oils with these listed parameters with the following limits:

    a. Moisture maximum Trace
    b. Metals maximum 0.5%
    c. Flash Point minimum 300^{0}F.

13. This permit allows receipt of waste oils and spent solvents generated within the corporate limitsoof the City of Rockford, Illinois only. Prior to receipt of waste oil or spent solvent from other than the City of Rockford, local siting approval (pursuant to Section 39.1 of the Environmental Protection Act, as amended) must be obtained and submitted to this office as part of an application for permit to modify site operation.

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

July 1, 1979

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Divisions of Water Pollution Control, Air Pollution Control, Public Water Supplies, and Land and Noise Pollution Control. Special conditions may also be imposed by the separate divisions in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year after date of issuance unless construction or development on this project has started on or prior to that date.

2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.

3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.

4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:

   a. to enter at reasonable times the permittee's premises where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit.

   b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.

   c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS 12/20 ISS ILD053197547

(1) (8) REFERENCE NUMBER 014

OBSERVATION REPORT - SITE INVENTORY NO. 20103040 (11) (18)

WINNEBAGO CO. - L.P.C. Region # R Date 11/12/82 (20) (25)

ROCKFORD / SMITH OIL Letter Sent (Yes or No) N (26)
(Location) (Responsible Party)

Samples Taken: Yes ( ) No (X) Time: From 09:00 Am Weather
Ground Water( ) Surface( ) Other( ) To 10:30 Am
Photos Taken: Yes ( ) No (X) Interviewed BILL TIMM Inspector P D L (27) (29)

Previous Inspection 3/4/82 PRE-OP Previous Correspondence -0- Site Open: Yes(X) No( )

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(X)	Landfill	( )	Storage	(X)	E.P.A. Permit	(X)
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other	( )	A.C.D.	( )	21(e)	( )
Closed and Covered	( )	Quantity Received Daily(1-6)		1 (30)		Board Order	( )
						Illegal (5)	( ) X (31)

IMPROVED

LPC 4 1/79 5,000

SAME

DETERIORATED I S or D S (62)

GENERAL REMARKS: Previous inspections @ Smith Oil had revealed CCRA compliance in the following areas: waste analysis, security, operating records, inspections, personnel training, preparedness and prevention, contingency plan and closure plan. An ISS was to be conducted after Smith Oil received their LPC operating permit to store hazardous wastes. The idea was that once the LPC permit was granted Smith Oil would begin storing hazardous wastes and thus the ISS could be completed - manifest review, inspection for compliance with container

INTERVIEW: regulations, pre transport requirements etc. I thought I had made this clear to Bill Timm when I telephoned him for an appointment, however, upon arriving at the facility I learned that the ISS can still not be completed as they have not begun to store hazardous wastes.

Smith Oil's intent was to pick up customers wastes and store them and then transport them to Elgin/Safety Kleen for reclamation.

DIAGRAM: cont'd

RECEIVED
DEC -8 1982
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

RECEIVED
DEC -8 1982
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMORANDUM

TO: FILE DATE: 11/12/82

FROM: PD LORINTO

SUBJECT: RKFd/Smith Oil centid LPC 2010304O
US ILD053197547

☒ Information only
☐ Response requested

Safety Kleen has not obtained the supplemental permits for Rockford Products & others plants wastes, thus, the hold up on Smith Oil's proposal.

Timm was concerned that he had to renew his operating permit after one year. I explained to him that it was a life of the site permit and that the DE would have expired in one year had he not "developed" the site. He could not remember why he believed the OP expired and asked me to call Springfield. I spoke with Sally Smit. Who said they attach the special conditions page to the OP permits and Timm may have thought Condition #1 (develop w/i one year or permit expires) applied to the OP permit.

I examined recent manfests and noted that on 9/20/82 2500 gallons of "Cleaners Solution" - non hazardous sludge from barrel wash - were sent to BFI.

Timm said Marsha from Sun Oil would call me regarding the use of both a federal & State manifest for non haz. waste shipments. I told Timm this dual manifestors was unnecessary and that if Marsha called we could clarify this point.

Timm took me through the entire plant as well as the product storage bldg and tank farm area. As before the plant is immaculate and as Timm walks through the areas he gives instructions to Bob Kuczynski - Maintenance Engineer - to repair items - move items, adjust heat, lighting etc.

cc: DWPC/FOS and Records Unit

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

TELEPHONE CONVERSATION RECORD

REFERENCE NUMBER 015

Winnebago
COUNTY

WPC
DIVISION

Smith Oil Co. [INO Gen RJ] / Kilburn St. I. D. or FILE NO.

Re: Trichloroethylene in groundwater

Conversation with: Eileen Peterson, Rockford Register Star

( ) I Called Party (X) Party Called Me DATE 12 /20/ 82 TIME 3:00 PM

( ) Complainant ( ) Violator (X) Public Inquiry ( ) Partitioner

What I Said: What Other Party Said:

Peterson wrote the recent investigative articles about the trichloroethylene contamination of Rockford deep groundwater supply. Since they appeared, she received a letter from someone that used to work for Smith Oil Co. on Kilburn. The letter reported the following:

1. Smith Oil sold trichloroethylene in bulk. The bulk tank leaked for 3 years.

2. The area inside the tank site was saturated with trichloroethylene, pools were present and the smell was very strong.

3. The tank was finally emptied, retired from use and Smith Oil now only handles and sells drums of the material.

4. Waste solvent had been dumped in Kent Creek in the past.

Peterson asked if we had ever received a complaint about the above or had been aware of solvent in the creek. She was told that we have had none.

We can and will visit Sun Oil and the area in question.

RECEIVED
Field Operations Section
DEC 23 1982
Environmental Protection Agency
State of Illinois

CEC/svf
12/22/82

use reverse side if necessary

Signature

Title

EPA 129 rev 1/81

Over

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

REFERENCE NUMBER 016

217/782-6762

JANUARY 25, 1983

SMITH OIL CORPORATIN
1100 KILBURN
ROCKFORD , IL 61101
ATTENTION: WILLIAM KIM

GENERATOR NUMBER: 2010500043G

DEAR SPECIAL WASTE GENERATOR:

SPECIAL WASTE DISPOSAL, TREATMENT, OR STORAGE PERMIT(S) NAMING YOUR FACILITY AS THE GENERATOR OF THE WASTE ARE DUE TO EXPIRE JUNE 1983. WE HAVE INFORMED THE HOLDERS OF THESE PERMITS (THE DISPOSAL, TREATMENT, OR STORAGE SITE) OF THIS AND YOU MAY BE CONTACTED BY THEM TO PROVIDE WASTE STREAM INFORMATION FOR THEIR PERMIT RENEWAL APPLICATION. THE PERMITS AND SITES ARE LISTED BELOW FOR YOUR CONVENIENCE.

IT IS NOT NECESSARY FOR YOUR FACILITY TO CONTACT THE AGENCY, IN ORDER TO RENEW THE PERMITS. ONLY THE PERMITEE, I.E. THE DISPOSAL, TREATMENT, OR STORAGE SITE, CAN MAKE APPLICATION FOR A PERMIT.

IT CLEARLY IS IN YOUR INTEREST TO KNOW THAT THESE PERMITS WILL EXPIRE BECAUSE THE SITE CAN NOT LEGALLY CONTINUE TO ACCEPT YOUR WASTE AFTER THE PERMIT EXPIRATION DATE UNLESS THE PERMIT HAS BEEN RENEWED.

	PERMIT AUTH #	(DISPOSAL, STORAGE, TREATMENT) SITE #	NAME	EXPIRE DATE	CURRENT CLASSIFICATION
1	921801	0314380 1	ELGIN/SAFETY KLEEN	06/17/83	HAZARDOUS
2	921802	0314380 1	ELGIN/SAFETY KLEEN	06/17/83	HAZARDOUS
3	921803	0314380 1	ELGIN/SAFETY KLEEN	06/17/83	HAZARDOUS
4	921804	0314380 1	ELGIN/SAFETY KLEEN	06/17/83	HAZARDOUS
5	921805	0314380 1	ELGIN/SAFETY KLEEN	06/17/83	HAZARDOUS

3/14/83

ENVIRONMENTAL PROTECTION AGENCY STATE OF ILLINOIS

(1) LPCFCO5E (6) **REFERENCE NUMBER 017**

OBSERVATION REPORT - SITE INVENTORY NO. 201030AO (11) (18)

WINNEBAGO CO. - L.P.C. Region # R Date 02/24/83 (20) (25)

ROCKFORD / SMITH OIL Letter Sent (Yes or No) N (26)
(Location) (Responsible Party)

Samples Taken: Yes (X) No ( ) Time: From 12 : 05 pm Weather dry, windy
Ground Water( ) Surface( ) Other(X) To 12 : 45 pm
Photos Taken: Yes ( ) No (X) Interviewed BILL TIM
BOB KUCZYNSKI Inspector P D L (27) (29)

Previous Inspection 11/12/82 Previous Correspondence -0- Site Open: Yes (X) No ( )

OPERATIONAL STATUS:		TYPE OF OPERATION:				AUTHORIZATION:	
Operating	(✓)	Landfill	( )	Storage	(✓)	E.P.A. Permit	(✓)
Temporarily Closed	( )	Random Dump	( )	Salvage	( )	Variance	( )
Closed Not Covered	( )	Other	( )	A.C.D.	( )	21(e)	( )
Closed and Covered	( )	Quantity Received Daily(1-6)		1 (30)		Board Order	( )
						Illegal (5)	( ) X (31)

IMPROVED

SAME

DETERIORATED

LPC 4 1/79 5,000

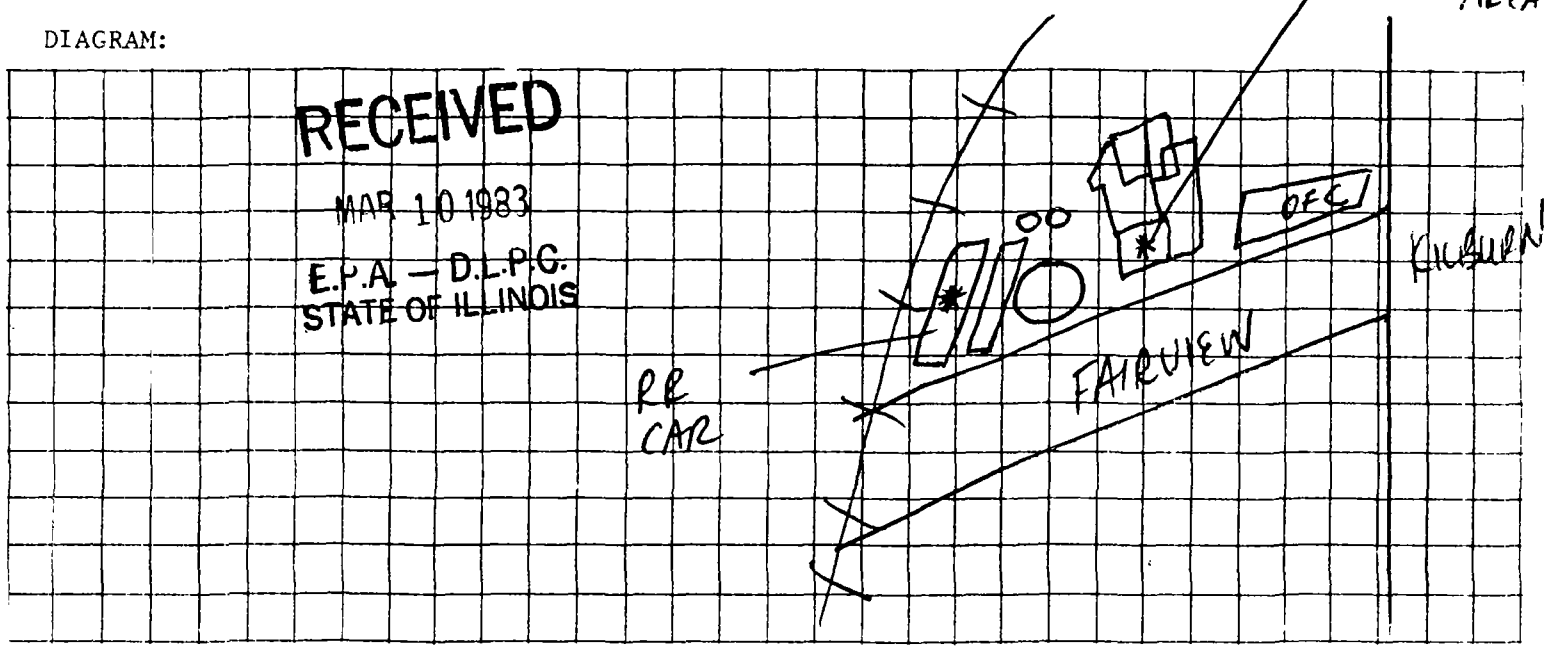
I S or D S (62)

GENERAL REMARKS: Oil samples were collected at this site pursuant to a USEPA request. Bill Timm accompanied me for collection of the first sample. An employee collected the sample off the bottom of an ≈ 700 gallon indoor holding tank. The tank is used to receive oil from an outdoor above ground tank. The oil is from Rockford Products and is heated and filtered before being sold for use as machine oil. Bob Kuczynski assisted me in collecting the second sample. Oil purchased from Gale Waste Oil Service is kept in a 10,000 gallon above ground (outdoors) tank. The

INTERVIEW: tank is an old railroad tank car. It is elevated on concrete supports. The oil is mixed with #5 fuel oil and burned in Smith O.I.S boiler. Kuczynski gave me a recent example of the ratio in the burn mixture - 1200 g #5 : 500 g waste oil.

Samples will be sent to Cambridge, Mass. for analysis.

DIAGRAM:



RECEIVED
MAR 10 1983
E.P.A. — D.L.P.C.
STATE OF ILLINOIS

REFERENCE NUMBER 018

Sun Refining and Marketing Company
Ten Penn Center
1801 Market Street
Philadelphia PA 19103-1699

June 30, 1983

Illinois EPA
Division of Water
Pollution Control
2200 Churchill Road
Springfield, IL 62706

SUBJECT: Sun R&M
NPDES Permit No. IL0045519
Smith Oil Corp., ~~Rockford, IL~~

Dear Madame or Sir:

This is to inform you of the following non-compliance of the NPDES permit limitations for the subject location.

PSD	Date & Time of Sample	Sample Type	Oil & Grease Results	Permit Limitations
001	8:30 a.m. 6/15/83	1 grab/mo.	25.8 mg/l	15 avg/mo.

The reason for this non-compliance may be due to the malfunction of the water cold air conditioner contained in the separator. This conditioner is used to maintain a constant flow of water through the separator and since the equipment was malfunctioning, the water may have remained stagnant in the separator.

The equipment is presently in the process of being repaired and will be placed back in the separator as soon as it is operational. We will continue to monitor the separator closely to avoid any further non-compliance.

If you have any questions pertaining to this matter, please contact me at (815) 962-0661.

Very truly yours,

D. F. Harold

TMS:sc

DIV FILE

REFERENCE NUMBER 019

Sun Refining and Marketing Company
Ten Penn Center
1801 Market Street
Philadelphia PA 19103-1699

October 28, 1983

Illinois EPA
Div. of Water Pollution Control
2200 Churchill Road
Springfield, IL 62706

SUBJECT: Smith Oil Co.
NPDES Permit No. IL0045519

Dear Madame or Sir:

Please be advised that Smith Oil has been sold as an operating subsidiary of Sun Refining and Marketing Co., effective 9/12/83. Since the operating company is no longer functioning at this location, no further monthly samples, as in accordance with the NPDES Permit, will be obtained. Therefore, the discharge monitoring reports will not be sent to your office on a semi-annual basis from Sun Refining & Marketing Co.

Since the real estate at this location was not sold as of this date, I will not cancel the NPDES permit. I will advise you of the name and address of the buyer when the sales transaction is formalized. In the interim, Sun Refining and Marketing Co. will remain as the holder of the NPDES permit and will advise the new owners of their responsibilities pertaining to this permit.

If you have any questions in reference to this matter, please contact me at (215) 977-6202.

Very truly yours,

Tina Smith

Tina M. Smith
Environmental Specialist

TMS:sc

FA 141
Copy sent to Reg.

REFERENCE NUMBER 020

Sun Refining and Marketing Company
Ten Penn Center
1801 Market Street
Philadelphia PA 19103-1699

April 30, 1984

Mr. Andrew A. Vollmer
Financial Assurance
Permit Section
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

RE: Your Log number FA141
Smith Oil/Rockford, Il.
Winnebago County

Dear Mr. Vollmer:

Please be advised that Sun Refining and Marketing Company sold Smith Oil Company to Coil Brothers and Rock Valley Oil and Chemical Company as of September 12, 1983.

To my knowledge, activities that could possibly require special liability insurance have ceased. Requests for further information pertaining to Smith Oil should be forwarded directly to Smith Oil Company at:

1102 Kilburn Avenue
Rockford, Illinois 61107

References to Sun Oil Company or Sun Refining and Marketing Company as current owners should be removed from Smith Oil Company files. Any existing permits or notifications submitted also should be revised to reflect this change.

If you have any questions pertaining to this matter, please let me know.

Very truly yours,

Marsha S. Weiss /cp

Marsha S. Weiss
Environmental Specialist

MSW/cp

cc: Mr. Bill Miner
Chief of Hazardous Waste Compliance
Region V - USEPA
Chicago, Il.

Bill Thimm/Roger Breeland
Smith Oil Company

SMITH OIL / 2120 SIXTEENTH STREET, ROCKFORD, ILLINOIS 61108 / TELEPHONE 815/229-8100

REFERENCE NUMBER 021

Smith Oil

A Division of
COIL BROS., INC.

August 21, 1984

2010300040
Winnebago County

Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

To Whom It May Concern:

This is to confirm my telephone coversation to your office on August 21, 1984 notifying you that Smith Oil, 2120-16th Street, Rockford, Illinois 61108 is not a generator or hauler of hazardous waste.

Smith Oil Corporation, 1100 Kilburn Avenue, Rockford, Illinois 61101 was sold last September and was a generator and hauler of hazardous waste. The number you are refering to was possibly their number.

Very truly yours,

SMITH OIL

William J. Timm

WJT/bb

is for that address - call

RECEIVED
AUG 22 1984
IEPA-DLPC

Illinois Environmental Protection Agency • 2200 Churchill Road, Springfield, IL 62706

AUGUST 01, 1984

FACILITY:
SMITH UTL CORPORATION
2120 16TH STREET

ROCKFORD , IL 61108-

******** THIS IS NOTIFICATION OF YOUR NEW ILLINOIS LAND POLLUTION ********
IDENTIFICATION NUMBER FOR WASTE HANDLERS.

DEAR OPERATOR:
THE ILLINOIS EPA HAS CHANGED ITS FACILITY NUMBERING SYSTEM. ALL STATE SITE AND GENERATOR NUMBERS HAVE BEEN MODIFIED TO TEN DIGITS IN LENGTH. THESE NUMBERS HAVE BEEN YOUR FACILITY IDENTIFICATION NUMBER USED ON WASTE PERMIT APPLICATIONS, MANIFESTS, AND ANNUAL REPORTS. FACILITIES WHICH WERE ASSIGNED BOTH A SITE NUMBER AND A GENERATOR NUMBER WILL NOW HAVE ONLY ONE IDENTIFICATION NUMBER.

YOUR OLD NUMBER WAS : GENERATOR ID NO. 2010300043G

****
*
* YOUR NEW NUMBER IS: 2010300040 *
*
****

****
*
* PLEASE USE YOUR NEW FACILITY IDENTIFICATION NUMBER ON ALL IEPA *
* LAND POLLUTION FORMS AND CORRESPONDENCE STARTING SEPT 1, 1984. *
*
****

1-217-782-6760

RECEIVED
AUG 22 1984
IEPA-DLPC

Illinois Environmental Protection Agency • 2200 Churchill Road, Springfield, IL 62706

REFERENCE NUMBER 022

217/782-6762

MAY 17, 1985

SMITH OIL CORPORATION
1100 KILBURN AVENUE
ROCKFORD , IL 611010000
ATTENTION: WILLIAM J TIMM

GENERATOR NUMBER: 2010300040

DEAR SPECIAL WASTE GENERATOR:

SPECIAL WASTE DISPOSAL, TREATMENT, OR STORAGE PERMIT(S) NAMING YOUR FACILITY AS THE GENERATOR OF THE WASTE ARE DUE TO EXPIRE OCTOBER 1985. WE HAVE INFORMED THE HOLDERS OF THESE PERMITS (THE DISPOSAL, TREATMENT, OR STORAGE SITE) OF THIS AND YOU MAY BE CONTACTED BY THEM TO PROVIDE WASTE STREAM INFORMATION FOR THEIR PERMIT RENEWAL APPLICATION. THE PERMITS AND SITES ARE LISTED BELOW FOR YOUR CONVENIENCE.

IT IS NOT NECESSARY FOR YOUR FACILITY TO CONTACT THE AGENCY, IN ORDER TO RENEW THE PERMITS. ONLY THE PERMITEE, I.E. THE DISPOSAL, TREATMENT, OR STORAGE SITE, CAN MAKE APPLICATION FOR A PERMIT.

IT CLEARLY IS IN YOUR INTEREST TO KNOW THAT THESE PERMITS WILL EXPIRE BECAUSE THE SITE CAN NOT LEGALLY CONTINUE TO ACCEPT YOUR WASTE AFTER THE PERMIT EXPIRATION DATE UNLESS THE PERMIT HAS BEEN RENEWED.

	PERMIT AUTH #	(DISPOSAL, STORAGE, TREATMENT) SITE #	NAME	EXPIRE DATE	CURRENT CLASSIFICATIO
1	791730	1418210001	BROWNING-FERRIS INDUSTRIES	10/12/85	NON-HAZARDOUS
~~2~~	~~812396~~	~~1418210001~~	~~BROWNING-FERRIS INDUSTRIES~~	~~10/12/85~~	~~HAZARDOUS~~

Winnebago Co

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

REFERENCE NUMBER 023

217/782-6762

SEPTEMBER 20, 1985

SMITH OIL CORPORATION
1100 KILBURN AVENUE
ROCKFORD , IL 611010000
ATTENTION: WILLIAM J TIMM

Closed

GENERATOR NUMBER: 2010300040

DEAR SPECIAL WASTE GENERATOR:

SPECIAL WASTE DISPOSAL, TREATMENT, OR STORAGE PERMIT(S) NAMING YOUR FACILITY AS THE GENERATOR OF THE WASTE ARE DUE TO EXPIRE FEBRUARY 1986. WE HAVE INFORMED THE HOLDERS OF THESE PERMITS (THE DISPOSAL, TREATMENT, OR STORAGE SITE) OF THIS AND YOU MAY BE CONTACTED BY THEM TO PROVIDE WASTE STREAM INFORMATION FOR THEIR PERMIT RENEWAL APPLICATION. THE PERMITS AND SITES ARE LISTED BELOW FOR YOUR CONVENIENCE.

IT IS NOT NECESSARY FOR YOUR FACILITY TO CONTACT THE AGENCY, IN ORDER TO RENEW THE PERMITS. ONLY THE PERMITEE, I.E. THE DISPOSAL, TREATMENT, OR STORAGE SITE, CAN MAKE APPLICATION FOR A PERMIT.

IT CLEARLY IS IN YOUR INTEREST TO KNOW THAT THESE PERMITS WILL EXPIRE BECAUSE THE SITE CAN NOT LEGALLY CONTINUE TO ACCEPT YOUR WASTE AFTER THE PERMIT EXPIRATION DATE UNLESS THE PERMIT HAS BEEN RENEWED.

	PERMIT AUTH #	(DISPOSAL, STORAGE, TREATMENT) SITE #	NAME	EXPIRE DATE	CURRENT CLASSIFICATION
1	830147	0978020001	CECOS INTERNATIONAL	02/01/86	HAZARDOUS

RCRA INSPECTION REPORT - INTERIM STATUS STANDARDS
TREATMENT, STORAGE, AND DISPOSAL FACILITIES
Form A General Facility Standards

REFERENCE NUMBER 024

I. General Information

USEPA Number: ILD053197547 IEPA Number: 2010300040

Major Facility: YES (NO) Notified As: Gen, TSD Regulated As: NOT REGULATED

(A) Facility Name: Smith Oil Corp

(B) Street: 1100 Kilburn

(C) City: Rockford (D) State: IL (E) Zip Code: 61101

(F) Phone: 815/963-3800 (G) County: Winnebago

(H) Operator:

(I) Street:

(J) City: (K) State: (L) Zip Code:

(M) Phone: (N) County:

(O) Owner (Was) SUN REFINING & MARKETING Co.

(P) Street: TEN PENN CENTER, 1801 MARKET STREET

(Q) City: PHILADELPHIA (R) State: PA (S) Zip Code: 19103-1699

(T) Phone: 215/977-6398 (U) County:

Region: R (V) Date of Inspection: 9/13/85 (W) Time: (From) 1:00a (To) 12:00

Type of Inspection: (ISS) RECORD REVIEW SAMPLING CITIZEN COMPLAINT
CLOSED WITHDRAWAL OTHER PART B
F/U ___/___/___ (Date of Initial Inspection)

(X) Weather Conditions: SUNNY, HIGH - 70's.

Area	Section	Class I	Class II
TOTAL Class I's & II's		2	0

ILL. E.P.A. — D.L.P.C.
STATE OF ILLINOIS

(AA) Preparer Information

Name
PATRICIA LUEDTKE

Agency/Title
IEPA/ INSPECTOR

Telephone
815/987-7404

RECEIVED
OCT 08 1985
IEPA-DLPC

RECEIVED
SEP 25 1985
IEPA-DLPC

532-1343

REFERENCE NUMBER 025

Sun Refining and Marketing Company
Ten Penn Center
1801 Market Street
Philadelphia PA 19103-1699

December 31, 1987

Ms. Mary Villarreal
Environmental Protection Specialist
U.S. ENVIRONMENTAL PROTECTION AGENCY
Region V
230 South Dearborn
Chicago, IL 60604
5HS-JCK-13

Winnebago/2010300040
Re: Smith Oil Company
ILD 053197547

Dear Ms. Villarreal:

We are writing to you on advice from the Illinois Environmental Protection Agency ("IEPA") and after conferring with you in August and September 1985 to withdraw formally an Application for a Part A Permit apparently filed by Smith Oil Company ("Smith") on November 19, 1980.

Smith was a corporation affiliated with Sun Refining and Marketing Company ("Sun") before Smith went out of business in 1983. Smith made a "protective filing" with EPA for its Rockford, Illinois facility as a hazardous waste treatment, storage or disposal facility and was assigned the number indicated above. However, as stated in the certification of Mr. David Knoll, a Sun Vice President, which is attached, Smith's Rockford facility was never a treatment, storage or disposal facility under the Resource Conservation and Recovery Act when it was owned and operated by Smith. For this reason, Smith did not file a closure plan or otherwise follow-up regarding its Part A application.

We are formally withdrawing the Application for a Part A permit to clear the record.

Please advise me of the action you will be taking.

Very truly yours,

Marsha S Weiss

MARSHA S. WEISS
Environmental Consultant

MSW:dmb

CERTIFICATION

The undersigned, a Vice President of Sun Refining and Marketing Company, a corporation that was affiliated with Smith Oil Company ("Smith") before Smith went out of business in 1983, hereby certifies that when Smith owned and operated a facility in Rockford, Illinois, that was assigned the identification number ILD 053197547 by the Illinois Environmental Protection Agency, Smith did not store, treat or dispose of hazardous wastes in a manner which would make it a Treatment, Storage or Disposal Facility under the Resource Conservation and Recovery Act and, accordingly, did not require a Permit under said Act.

WITNESS: Marsha S Weiss

David E. Knoll

Dated: 12/31/87

REFERENCE NUMBER 02[illegible] → (2010300040-Winnebago (Smith Oil Co) previous: UST-LUST-RCRA General

GUYER & ENICHEN
LAWYERS
SUITE 400
202 WEST STATE STREET
ROCKFORD, ILLINOIS
61101

AREA CODE 815
TELEPHONE 965-8775

STANLEY H. GUYER (1903-1986)
EDWARD J. ENICHEN
DAVID E. MAYFIELD
G. MICHAEL SCHEURICH
TIMOTHY R. GILL
JAMES E. TUNEBERG

April 6, 1988

RECEIVED
ROCKFORD REGION
APR 08 1988
ILL. E.P.A. — D.L.P.C.
STATE OF ILLINOIS

Illinois Environmental Protection Agency
4302 North Main Street
Rockford, Illinois 61103

3 TANKS
SMITH-SOHIO

Dear Sir or Madam:

The Rockland Park Foundation is the owner of land which was formerly the site of the Smith Oil bulk plant on North Kilburn Avenue in the City of Rockford. Sun Refining, the parent company of Smith Oil, has over the last year removed all of the tanks, lines and other material from the premises, and the Park Foundation presently holds a piece of land of approximately one acre, the site of the former tank farm, as nothing much more than a big hole in the ground. Our long-range plans include using that site for deposit of substantial amounts of fill dirt to be removed from other sites in the area where the Rockford Park District will be engaged in projects this late winter and spring.

Before we deposit loads of fill, we wish to know whether we would have to remove them in the future for an EPA review or test of the ground under the former tank farm, and we now inquire whether a closing certificate is required or may be obtained for that parcel.

If you require further information or have questions or comments, please contact the undersigned at your early convenience.

Very truly yours,

G. MICHAEL SCHEURICH

RECEIVED
APR 13 1988
IEPA-DLPC

GMS:sa

cc: Mr. David L. Wiemer

Referred to S. Colantino 4-8-88
RAW

Rockford

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY

TO: Steve Colantino → Div. File DATE: 4-8-88

FROM THE DESK OF: Bob Wengrow

RE:

- ☐ FOR YOUR APPROVAL
- ☐ TAKE NECESSARY ACTION
- ☐ APPROVED
- ☐ REPLY REQUESTED
- ☐ FOR YOUR COMMENTS
- ☒ FOR YOUR INFORMATION
- ☐ PER YOUR REQUEST
- ☐ SEE ME ABOUT ATTACHED
- ☐ PLEASE RETURN
- ☐ PLEASE CALL ME

COMMENTS:

I will tell Schenrich that, if he is in doubt regarding the cleanliness of the site, then the Park District should take soil samples, etc. Also, his letter is being forwarded to you in case you have some input into the matter.

Bob W.

cc: Rockford

IL 532-0562
EPA 004 (Rev. 3/82)

4-14-88

SAC -

KEITH EMKE - OSFM HAS SEVERAL SMITH OIL CO's LOCATED IN ROCKFORD. THE ONLY ONE LOCATED ON KILBURN AVE. IS SMITH-SCHAEFER AT 913 KILBURN AVE. According TO INFO THEY HAVE THERE ARE THREE TANKS AT THIS LOCATION AND THEY HAVE NO RECORD OF ANY OF THEM EVER BEING REMOVED.

ERU HAS NOTHING ON THIS FACILITY AT ALL.

Ken

P4186652558

Illinois Environmental Protection Agency · 2200 Churchill Road, Springfield, IL 62706

217/782-6761

REFERENCE NUMBER 027

Refer to: # 2010300040 -- Winnebago County
~~Smith Oil Co.~~ Petroleum Cii
ILD 053197547 PREMIUM
RCRA - Permits

May 6, 1988

Smith Oil Co.
1100 Kilburn Avenue
Rockford, Illinois 61101

Attn: Environmental Coordinator or
Plant Manager

Dear Sir:

According to Agency files, your facility currently manages hazardous waste in containers and/or tanks subject to the requirements of 35 IAC 700-725. 35 IAC 703.157(f) states that interim status for any hazardous waste storage or treatment facility will be terminated November 8, 1992, unless the facility submits Part B of the RCRA permit application for these units to this Agency by November 8, 1988. This letter is written to (1) make you aware of this requirement and (2) describe the actions which must be taken in response to this requirement.

According to 35 IAC 703.157(f), if an existing facility desires to (1) store hazardous waste on-site for greater than ninety (90) days, (2) treat hazardous waste, or (3) store hazardous waste as a commercial facility after November 8, 1992, it must submit Part B of the RCRA permit application to this Agency by November 8, 1988. The information which must be contained in this application is described in 35 IAC 703, Subpart D. The enclosed document, entitled "RCRA Permit Guidance" provides more detail regarding the necessary contents of the application and also identifies several guidance documents which will be useful in developing the application. Also included in this document is the form which must be used when submitting the application.

If a facility does not desire to continue storing and/or treating hazardous waste after November 8, 1992, it must close the storage and/or treatment unit(s) present at the facility prior to this date. Closure, in this instance, basically means that all contamination must be removed from the unit(s) and if necessary, from the area surrounding these units. The requirements which must be met in closing these units are contained in 35 IAC 725, Subpart G. For you convenience, guidance for the development of a closure plan is contained in the enclosed document entitled "Instructions for the Preparation of Closure Plans for Interim Status RCRA Hazardous Waste Facilities." PLEASE NOTE THAT A CLOSURE PLAN DOES NOT NEED TO BE SUBMITTED AT THIS TIME. IT MUST HOWEVER, BE SUBMITTED TO THE AGENCY NO LATER THAN MAY 8, 1992.

In some instances, there may be several interim status hazardous waste management units at a facility. The facility may desire to pursue a final RCRA permit for a portion of these units and close the rest of them. Because of the uncertainty associated with this option, all interim status units at a facility must be included in Part B of the RCRA permit application, unless a closure plan for the units being closed is submitted with the Part B. If a closure plan is submitted with the Part B, the application need only address those units which will remain in operation.

The only alternatives available for hazardous waste treatment and storage facilities to meet the requirements of 35 IAC 703.157(f) are (1) submit Part B of the RCRA permit application by November 8, 1988 or (2) close by November 8, 1992. However, some facilities may have previously filed Part A of the RCRA permit application in error and now feel that the hazardous waste management activities carried out at the facility do not require a RCRA permit (i.e. the Part A was filed for protective measures). If this is the case, the Agency requests that information supporting this position be submitted no later than November 8, 1988. The Agency can then review the information submitted and correct its records accordingly. The information which must be submitted to make this demonstration is contained in the enclosed document entitled "Facility Part A Withdrawal Request Form."

Finally, some facilities may have closed or are currently closing in accordance with an IEPA approved closure plan. (Please bear in mind this letter is going out to over 200 facilities; some closed facilities may inadvertently receive this letter.) In this instance, the Agency requests that a copy of (1) the closure plan approval letter and (2) the letter from the Agency accepting the certifications of the owner/operator and the rgistered professional engineer that closure was carried out in accordance with the approved closure plan (if closure has been completed) be submitted by November 8, 1988. The Agency will again be able to review this information and correct its records accordingly.

Because of the large number of facilities subject to the requirements of 35 IAC 703.157(f), the Agency requests that all facilities receiving this letter complete the enclosed form entitled "RCRA Permit Information Form." The form has been developed such that it can be used by a facility falling into any of the five categories described above (pursuing a final permit, planning to close, pursuing a permit for only a portion of the interim status units and closing the other units, protective filers, closed in accordance with an IEPA approved closure plan). This form must be submitted to the Agency no later than November 8, 1988, along with all required attachments. Failure to do so may subject a facility to enforcement under State and/or Federal regulat ons and possible monetary penalties up to $25,000 per day of noncompliance.

The RCRA Permit Information Form and all required attachments must be submitted in triplicate (original and two (2) copies) to the following address:

Permit Section, RCRA Unit
Division of Land Pollution Control
Illinois Environmental Protection Agency
2200 Churchill Road
P.O. Box 19276
Springfield, IL 62794-9276

If you have any questions regarding this letter, please contact Jim Moore at 217/782-9875.

Very truly yours,

Lawrence W. Eastep

Lawrence W. Eastep, P.E., Manager
Permit Section
Division of Land Pollution Control

LWE:JKM:dks/1238j/1244j/1-3

Enclosures

cc: Division File
Compliance
Rockford Region
USPEA Region V

To Mike Walker

REFERENCE NUMBER 028

RECEIVED
AUG 10 1988
IEPA-DLPC

Sun Refining and Marketing Company
Ten Penn Center
1801 Market Street
Philadelphia PA 19103-1699

June 29, 1988

2010300040-WILL
PREMIUM OIL

Illinois Environmental Protection Agency
Division of Land Pollution Control
Compliance Monitoring Section
P. O. Box 19276
Springfield, Illinois 62794-9276

Gentlemen:

Please find enclosed the 1987 Generator Annual Hazardous Waste Report for the Smith Oil Facility, ILD053197547. We apologize for our submitting this report so late but we did not receive the necessary forms until after the due date of March 1.

We would also like to inform you that Sun donated this property to the Rockland Park Foundation. Since then the Park Foundation sold the blend plant to Premium Oil, 923 Fairview at Kilburn Ave., Rockford, Illinois, 61001. Since we no longer own the facility, this will be the last annual report we will submit.

If you have any questions, please call me at (215) 977-6145.

Sincerely,

Judy S. Brackin

Judy S. Brackin
Research Engineer

JSB/ama
enclosure

cc: M. Weiss
K. Davis
B. Chieffo

RECEIVED
JUL 11 1988
IEPA-DLPC

PC277 1

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320

REGULAR TELEPHONE: (219) 931-2630
EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

REFERENCE NUMBER 029

PRODUCT IDENTITY

SECTION 1

Label Name	CW-170
Synonyms & or Formula	CHLORINATED PARAFFINS CxH((x*2)+2-y)CLy
Chemical Family	CHLORINATED PARAFFIN WAXES

CAS Number 108171-27-3

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

HAZARDOUS INGREDIENTS

SECTION 2

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

REFER TO SECTION 6 (HEALTH EFFECTS OF EXPOSURE) FOR DESCRIPTION OF SUSPECT HAZARD.

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

PHYSICAL AND CHEMICAL CHARACTERISTICS

SECTION 3

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	1.17
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	YELLOW TO AMBER COLOR, HIGH VISCOSITY LIQUID, SWEET-BLAND ODOR		

FIRE AND EXPLOSION HAZARD DATA

SECTION 4

FLASH POINT (Method Used)	> 350 F (177 C), COC	FLAMMABLE LIMITS	Lel NF	Uel NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMICAL (B-C)			

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (HYDROGEN CHLORIDE). EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

"ESSENTIALLY SIMILAR" TO OSHA FORM

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

REACTIVITY DATA

SECTION 5

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON, HYDROGEN CHLORIDE, INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	CONSIDERED TO "CAN CAUSE EYE IRRITATION"
SKIN	NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY SKIN, EYE

PUBLISHED EXPOSURE LIMITS NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3.

LISTED AS A CARCINOGEN?

C_{23}, 43% chlorine chlorinated paraffins were not mutagenic when tested in the Ames Assay. The National Toxicology Program has conducted tests with this chlorinated paraffin and after review of those results has not proposed this material for listing as a carcinogen.

SIGNS AND SYMPTOMS OF EXPOSURE

EYES - IRRITATION (REDNESS)

NO OTHER EFFECTS EXPECTED UNDER NORMAL CONDITIONS OF USE.

SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYE - FLUSH WITH PLENTY OF WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD

TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT

CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)

USE CHEMICAL GOGGLES OR FULL FACE SHIELD. IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 90 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED ABOVE RECOMMENDED TEMPERATURE, CAREFULLY VENT POSSIBLE VAPORS IN OPEN AREA.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	PETROLEUM OIL
DOT Classification	N. O. I.
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

SEE MSDS FOR DESCRIPTION OF
NATIONAL TOXICOLOGY PROGRAM CANCER STUDY.

CAUTION!

CAN CAUSE EYE IRRITATION (REDNESS)
AVOID CONTACT WITH EYES

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext.6336

SECTION 1 PRODUCT IDENTITY

Label Name	BASE HS
Synonyms & or Formula	SULFURIZED FATTY OIL
Chemical Family	SULFURIZED FATTY OIL
CAS Number	61790-49-6

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

PETROLEUM OIL - CAS No. may be made available upon request. Present at 20 to 30 %. If this product is misted, the ACGIH standard for oil mists applies. This oil is not otherwise considered a hazardous material.

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	1.01
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	DARK BROWN-BLACK COLOR, HIGH VISCOSITY LIQUID (MAY SET-UP), FATTY ODOR		

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 350 F (177 C), COC	FLAMMABLE LIMITS	Lel NF	Uel	NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMCIAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF SULFUR). EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

REACTIVITY DATA

SECTION 5

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI, COPPER AND COPPER ALLOYS		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON AND SULFUR, (HYDROGEN SULFIDE), INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	CONSIDERED TO "CAN CAUSE IRRITATION."
SKIN	NF. BELIEVED TO CAUSE SKIN IRRITATION.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY SKIN, EYE

PUBLISHED EXPOSURE LIMITS IF MISTED, OBSERVE THE ACGIH TWA FOR OIL MISTS, 5MG/M3.

LISTED AS A CARCINOGEN?

NO.

SIGNS AND SYMPTOMS OF EXPOSURE

NF. BELIEVED TO BE: EYES - IRRITATION (REDNESS)
SKIN - IRRITATION (REDNESS)

NO OTHER EFFECTS EXPECTED UNDER NORMAL CONDITIONS OF USE.
SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYES - FLUSH WITH PLENTY OF WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.
SKIN - WASH THOROUGHLY WITH MILD SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD
TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT
CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	VENTILATE TO MAINTAIN EXPOSURE BELOW TLV.
PROTECTIVE GLOVES	USE IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)
USE CHEMICAL GOGGLES OR FULL FACE SHIELD. USE IMPERVIOUS (RUBBER, NITRILE) GLOVES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH CONTAMINATED CLOTHING BEFORE REUSE. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED ABOVE RECOMMENDED TEMPERATURE, CAREFULLY VENT POSSIBLE VAPORS IN OPEN AREA.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM, SULFURIZED GREASE
DOT Classification	OIL, INEDIBLE
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

DO NOT CAUSE THIS PRODUCT TO MIST
OR FORM AEROSOL.

CAUTION!

CAN CAUSE SKIN & EYE IRRITATION (REDNESS)
AVOID CONTACT WITH EYES, SKIN, CLOTHING

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

SECTION 1 — PRODUCT IDENTITY

Label Name	BASE 10-L
Synonyms & or Formula	SULFURIZED LARD OIL
Chemical Family	SULFURIZED LARD OIL
CAS Number	61790-49-6

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 — HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

NA

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 — PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	0.93
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	DARK BROWN-BLACK COLOR, HIGH VISCOSITY LIQUID (MAY SET-UP), FATTY ODOR		

SECTION 4 — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 350 F (177 C), COC	FLAMMABLE LIMITS	Lel	NF	Uel NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMICAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF SULFUR).
EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI, COPPER AND COPPER ALLOYS		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON AND SULFUR, (HYDROGEN SULFIDE), INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	CONSIDERED TO CAUSE EYE IRRITATION.
SKIN	NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY	SKIN, EYE
PUBLISHED EXPOSURE LIMITS	NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3.
LISTED AS A CARCINOGEN?	NO.

SIGNS AND SYMPTOMS OF EXPOSURE

EYES - IRRITATION (REDNESS)

NO OTHER EFFECTS EXPECTED UNDER NORMAL CONDITIONS OF USE.

SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYE - FLUSH WITH PLENTY OF WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

ILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD
TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT
CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)
USE CHEMICAL GOGGLES OR FULL FACE SHIELD. IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED BELOW TITER POINT, WARM AND MIX THOROUGHLY BEFORE USE. IF STORED ABOVE RECOMMENDED TEMP., CAREFULLY VENT POSSIBLE VAPORS IN OPEN AREA.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM, SULFURIZED GREASE
DOT Classification	OIL, INEDIBLE
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

CAUTION!
CAUSES EYE IRRITATION (REDNESS)
AVOID CONTACT WITH EYES

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

SECTION 1 PRODUCT IDENTITY

Label Name	SUL-PERM 120
Synonyms & or Formula	SULFURIZED FATTY OIL
Chemical Family	SULFURIZED FATTY OIL
CAS Number	ACC. NO. 32770

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

NA

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	0.98
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	DARK BROWN-BLACK COLOR, MEDIUM VISCOSITY LIQUID, FATTY ODOR		

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 350 F (177 C), COC	FLAMMABLE LIMITS	Lel NF	Uel	NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMCIAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF SULFUR).
EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI, COPPER AND COPPER ALLOYS		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON AND SULFUR, (HYDROGEN SULFIDE), INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

SECT.

HEALTH EFFECTS OF EXPOSURE

EYE	NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.
SKIN	NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY SKIN, EYE

PUBLISHED EXPOSURE LIMITS NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3

LISTED AS A CARCINOGEN?

NO.

SIGNS AND SYMPTOMS OF EXPOSURE

NONE EXPECTED UNDER NORMAL CONDITIONS OF USE.

SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS *BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.*

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

NOT REQUIRED UNDER NORMAL CONDITIONS OF USE. GOOD PRACTICE SUGGESTS

FOR EYE CONTACT - FLUSH WITH PLENTY OF WATER

FOR SKIN CONTACT - WASH THOROUGHLY WITH SOAP AND WATER.

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD

TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT

CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	WHERE SPLASH CAN OCCUR, USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)

WHERE SPLASH CAN OCCUR, USE CHEMICAL GOGGLES OR FULL FACE SHIELD. IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. IF STORED ABOVE RECOMMENDED TEMPERATURE, OPEN BUNGS SLOWLY IN A WELL VENTILATED AREA TO VENT POSSIBLE VAPOR. IF STORED BELOW TITER POINT, WARM AND MIX THOROUGHLY BEFORE USE.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM, SULFURIZED GREASE
DOT Classification	OIL, INEDIBLE
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

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MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

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Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

SECTION 1 — PRODUCT IDENTITY

Label Name	EM-711
Synonyms & or Formula	BIS(2-ETHYLHEXYL)PHOSPHATE C15H3504P
Chemical Family	ORGANIC ACID PHOSPHATE
CAS Number	12645-31-7

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 — HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

BIS(2-ETHYLHEXYL)PHOSPHATE), CAS No. 298077
Concentration in product: approx. 100 %
DOT CORROSIVE MATERIAL

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 — PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	1.01
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	AMBER TO BROWN COLOR, MEDIUM VISCOSITY LIQUID, BLAND ODOR		

SECTION 4 — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	290 F (143 C), COC	FLAMMABLE LIMITS	Lel	NF	Uel NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMICAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF PHOSPHORUS). EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

"ESSENTIALLY SIMILAR" TO OSHA FORM

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

REACTIVITY DATA

SECTION 5

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI, CATALYTIC METALS(SN,NI,AL,PD,PT,ETC.)		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON AND PHOSPHORUS, INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	CONSIDERED TO CAUSE EYE IRRITATION ("MODERATE" - SAX)
SKIN	CONSIDERED TO CAUSE SKIN IRRITATION ("MODERATE" - SAX) DERMAL LD50 (RABBITS): 1.25 GRAMS / KILOGRAM ("MODERATELY TOXIC" - SAX)
INGESTION	CONSIDERED TO BE PRACTICALLY NON-TOXIC UNDER NORMAL CONDITIONS OF USE. LD50 (RATS): 4.95 GRAMS / KILOGRAM (SAX)
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY	SKIN, EYE
PUBLISHED EXPOSURE LIMITS	NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3.
LISTED AS A CARCINOGEN?	NO.

SIGNS AND SYMPTOMS OF EXPOSURE

NF - BELIEVED TO CAUSE EYE IRRITATION (REDNESS) AND SKIN IRRITATION (REDNESS).
MAY BE CORROSIVE TO SKIN AND EYE.

SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYES - FLUSH WITH PLENTY OF WATER. GET PROMPT MEDICAL ATTENTION.
SKIN - WASH THOROUGHLY WITH SOAP AND WATER. GET PROMPT MEDICAL ATTENTION.

NA = NOT APPLICABLE
NF = NOT FOUND

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD
TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT
CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	USE IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)
USE CHEMICAL GOGGLES OR FULL FACE SHIELD. USE IMPERVIOUS (RUBBER, NITRILE) GLOVES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH CONTAMINATED CLOTHING BEFORE REUSE. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. STORE IN GLASS, PLASTIC, OR CONTAINERS WITH NON-METALLIC LINING. DO NOT STORE IN CONTAINERS MADE OF CATALYTIC METALS (ALUMINUM, TIN, ZINC, ETC.) OR THEIR ALLOYS. DO NOT STORE NEAR FOOD OR FEED.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	CORROSIVE LIQUID N.O.S.
DOT Classification	CORROSIVE
DOT Labels	CORROSIVE
DOT Marking	CORROSIVE
DOT Placard	CORROSIVE
UN Number	UN1760

PRECAUTIONARY LABELING

SECTION 11

DOT CORROSIVE LIQUID UN1760

CAUTION!

CAN CAUSE SKIN & EYE IRRITATION (REDNESS)
AVOID CONTACT WITH EYES, SKIN, CLOTHING

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 198

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

SECTION 1 PRODUCT IDENTITY

Label Name	BASE A-92
Synonyms & or Formula	SULFURIZED LARD OIL
Chemical Family	SULFURIZED LARD OIL
CAS Number	68990-81-8

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

NA

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	> 350 F (177 C)	Specific Gravity (Water = 1)	1.00
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	DARK BROWN-BLACK COLOR, HIGH VISCOSITY LIQUID (MAY SET-UP), FATTY ODOR		

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 350 F (177 C), COC	FLAMMABLE LIMITS	Lel	NF	Uel NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMICAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF SULFUR).
EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

"ESSENTIALLY SIMILAR" TO OSHA FORM

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

REACTIVITY DATA

SECTION 5

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)			STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI, COPPER AND COPPER ALLOYS
HAZARDOUS DECOMPOSITION PRODUCTS			COMBUSTION CAN PRODUCE OXIDES OF CARBON AND SULFUR, (HYDROGEN SULFIDE), INCOMPLETELY BURNED HYDROCARBON PRODUCTS.
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	CONSIDERED TO "CAN CAUSE EYE IRRITATION." RABBIT SCORE: 5.3 / 110, CLEAR AT 48 HOURS
SKIN	NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY	SKIN, EYE
PUBLISHED EXPOSURE LIMITS	NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3.
LISTED AS A CARCINOGEN?	NO.

SIGNS AND SYMPTOMS OF EXPOSURE

EYES - IRRITATION (REDNESS)

NO OTHER EFFECTS EXPECTED UNDER NORMAL CONDITIONS OF USE.

WHERE SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT, THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYE - FLUSH WITH PLENTY OF WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

NA = NOT APPLICABLE
NF = NOT FOUND

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD
TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT
CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)
USE CHEMICAL GOGGLES OR FULL FACE SHIELD. IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 90 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED BELOW TITER POINT, WARM AND MIX THOROUGHLY BEFORE USE. IF STORED ABOVE RECOMMENDED TEMP., CAREFULLY VENT POSSIBLE VAPORS IN OPEN AREA.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM, SULFURIZED GREASE
DOT Classification	OIL, INEDIBLE
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 14

CAUTION!

CAUSES EYE IRRITATION (REDNESS)
AVOID CONTACT WITH EYES

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: November 22, 1985

To the Purchaser: This MSDS contains important environmental, health and toxicology information for your employees who have ordered this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE: (219) 931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (216) 641-8580 Ext. 6336

SECTION 1 — PRODUCT IDENTITY

Label Name	BASE ML
Synonyms & or Formula	"METHYL LARDATE" CxH(X*2)O2
Chemical Family	METHYL ESTERS
CAS Number	68082-78-0

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Insignificant

HEALTH:	1
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 — HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

NA

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Mixes Proprietary Trade Names)

SECTION 3 — PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	>215 F (102 C)	Specific Gravity (Water = 1)	0.88
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	NA
Vapor Density (Air = 1)	NF	Evaporation Rate	SLOWER THAN WATER
Solubility in Water	LESS THAN 0.2 %		
Appearance and Odor	STRAW TO YELLOW COLOR, LOW VISCOSITY LIQUID (MAY SET-UP), FATTY ODOR		

SECTION 4 — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	335 F (168 C), COC	FLAMMABLE LIMITS	Lel	NF	Uel NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMCIAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE NOXIOUS SMOKE AND FUMES.
EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON, INCOMPLETELY BURNED HYDROCARBON PRODUCTS		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.

SKIN NF. NOT EXPECTED TO BE IRRITATING UNDER NORMAL CONDITIONS OF USE.

INGESTION CONSIDERED TO BE PRACTICALLY NON-TOXIC UNDER NORMAL CONDITIONS OF USE.
ORAL LD50 (RATS): 20.5 GRAMS / KILOGRAM

INHALATION NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY SKIN, EYE

PUBLISHED EXPOSURE LIMITS NONE ESTABLISHED. GOOD INDUSTRIAL PRACTICE SUGGESTS OBSERVING THE ACGIH TWA FOR OIL MISTS, 5MG/M3.

LISTED AS A CARCINOGEN?
NO.

SIGNS AND SYMPTOMS OF EXPOSURE
NONE EXPECTED UNDER NORMAL CONDITIONS OF USE.

WHERE SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT, THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES
NOT REQUIRED UNDER NORMAL CONDITIONS OF USE. GOOD PRACTICE SUGGESTS
FOR EYE CONTACT - FLUSH WITH PLENTY OF WATER
FOR SKIN CONTACT - WASH THOROUGHLY WITH SOAP AND WATER.

NA = NOT APPLICABLE
NF = NOT FOUND

IMPORTANT: SEE LAST PAGE FOR DISCLAIMER

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER.

WASTE DISPOSAL METHOD
TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT
CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT. FOR EXAMPLE, STORAGE TANKS SHOULD BE THOROUGHLY DRAINED, CLEANED WITH AN INDUSTRIAL DETERGENT, FOLLOWED BY COMPLETE RINSING WITH WATER.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	NORMALLY NOT NEEDED. FOR OIL-TYPE MIST, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS.
- MECHANICAL (General)	RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA.
- SPECIAL	NOT REQUIRED UNDER NORMAL CONDITIONS OF USE.
PROTECTIVE GLOVES	IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	WHERE SPLASH CAN OCCUR, USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)
WHERE SPLASH CAN OCCUR, USE CHEMICAL GOGGLES OR FULL FACE SHIELD. IF SKIN CONTACT IS LIKELY, USE FRESHLY WASHED COTTON OR IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED BELOW TITER POINT, WARM AND MIX THOROUGHLY BEFORE USE.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM, SULFURIZED GREASE
DOT Classification	OIL, INEDIBLE
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1987.

MATERIAL SAFETY DATA SHEET

Issue Date: December 1, 1987
Supercedes: March 30, 1987

To Purchaser: This MSDS contains important environmental, safety & health information for your employees who will be using this product. Please be sure this information is given to them. If you resell this product, a copy of the MSDS should be given to the buyer.

Manufacturer	KEIL CHEMICAL DIVISION FERRO CORPORATION	REGULAR TELEPHONE:	219-931-2630
Address	3000 SHEFFIELD AVENUE HAMMOND, INDIANA 46320	EMERGENCY TELEPHONE: (OR) CHEMTREC:	216-641-8580 Ext. 6336 800-424-9300

SECTION 1 — PRODUCT IDENTITY

Label Name	BASE 8000
Synonyms & or Formula	SULFONATE-SOAP EMULSIFIER BASE
Chemical Family	PETROLEUM SULFONATE MIXTURE
CAS Number	CAS No. may be supplied upon request.

NFPA HAZARD RATING

4 - Extreme
3 - High
2 - Moderate
1 - Slight
0 - Minimal

HEALTH:	2
FLAMMABILITY:	1
REACTIVITY:	1
SPECIAL:	NA

SECTION 2 — HAZARDOUS INGREDIENTS

OSHA POTENTIAL HAZARDOUS SUBSTANCE (Identity, CAS No., percent, additional information)

PETROLEUM OIL - CAS No. may be made available upon request. Present at 20 to 30 %. If this product is misted, OSHA and ACGIH standard for oil mists applies. This oil is not otherwise considered a hazardous material.

ALPHATIC GLYCOL ETHER - CAS No. may be made available upon request. Present at 1 to 10 %. Believed to "may cause severe eye irritation".

Refer to Section 6 (Health Effects of Exposure) for further information.

INFORMATION FOR MIXTURES IS BASED ON CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST. (Minus Proprietary Trade Names)

SECTION 3 — PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point deg.F (deg.C)	225 F (107 C)	Specific Gravity (Water = 1)	1.02
Vapor Pressure (mm Hg)	NF	Percent Volatile by Volume (%)	APPROX. 10
Vapor Density (Air = 1)	NF	Evaporation Rate	SAME AS WATER
Solubility in Water	100 %		
Appearance and Odor	BROWN COLOR, HIGH VISCOSITY LIQUID, "PINE-LIKE" ODOR		

SECTION 4 — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used)	> 300 F (149 C), PMCC	FLAMMABLE LIMITS	Lel NF	Uel	NF
EXTINGUISHING MEDIA	CARBON DIOXIDE, FOAM, DRY CHEMCIAL (B-C)				

SPECIAL FIRE FIGHTING PROCEDURES

RECOMMEND SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN A PRESSURE-DEMAND OR OTHER POSITIVE PRESSURE MODE AND FULL BODY PROTECTIVE CLOTHING. TREAT AS AN OIL FIRE. WATER MAY BE USED TO KEEP FIRE-EXPOSED CONTAINERS COOL UNTIL FIRE IS OUT.

UNUSUAL FIRE & EXPLOSION HAZARDS AND OTHER PHYSICAL HAZARDS (See below for data on reactivity)

COMBUSTION CAN PRODUCE ACID GASES (OXIDES OF SULFUR) AND TOXIC GASES (OXIDES OF NITROGEN). EXPOSING PRODUCT TO INTENSE HEAT COULD CAUSE DRUMS TO RUPTURE.

REACTIVITY DATA

SECTION 5

STABILITY	UNSTABLE		CONDITIONS TO AVOID NA
	STABLE	X	
INCOMPATIBILITY (Materials to Avoid)	STRONG OXIDIZING AND REDUCING AGENTS, STRONG ALKALI		
HAZARDOUS DECOMPOSITION PRODUCTS	COMBUSTION CAN PRODUCE OXIDES OF CARBON, SULFUR, AND NITROGEN, INCOMPLETELY BURNED HYDROCARBON PRODUCTS.		
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID NA
	WILL NOT OCCUR	X	

HEALTH EFFECTS OF EXPOSURE

EYE	NF. BELIEVED TO "MAY CAUSE SEVERE EYE IRRITATION".
SKIN	NF. BELIEVED TO CAN CAUSE SKIN IRRITATION ON PROLONGED OR REPEATED CONTACT.
INGESTION	NF. NOT EXPECTED TO BE TOXIC UNDER NORMAL CONDITIONS OF USE.
INHALATION	NF. NOT CONSIDERED AN INHALATION HAZARD UNDER NORMAL CONDITIONS OF USE.

HEALTH HAZARD DATA

SECTION 6

PRIMARY ROUTES OF ENTRY SKIN, EYE, INHALATION

PUBLISHED EXPOSURE LIMITS IF MISTED, OBSERVE MINERAL OIL MIST OSHA PEL-TWA 5 MG/M3; ACGIH TLV-TWA 5 MG/M3; STEL 10 MG/M3.

LISTED AS A CARCINOGEN?

N O .

SIGNS AND SYMPTOMS OF EXPOSURE

NF. BELIEVED TO BE: EYES - IRRITATION (REDNESS)
SKIN - IRRITATION (REDNESS)

NO OTHER EFFECTS EXPECTED UNDER NORMAL CONDITIONS OF USE.
SPECIFIC TOXICOLOGY STUDIES HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THIS HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, INGREDIENTS AND PROFESSIONAL EXPERIENCE.

EFFECTS OF OVEREXPOSURE (Include any medical conditions that are generally recognized as being aggrivated by exposure)

NF

EMERGENCY AND FIRST AID PROCEDURES

EYES - WASH WITH PLENTY OF WATER. GET PROMPT MEDICAL ATTENTION
SKIN - WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

SPILL OR LEAK PROCEDURES

SECTION 7

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

CLEAN-UP SPILLS PROMPTLY. SURFACES CAN BE SLIPPERY. TREAT AS AN OIL SPILL. FOR SMALL SPILLS, ABSORB ON INERT MATERIAL (CLAY, SAND, DIRT, ETC.) FOR LARGE SPILLS, CONTAIN WITH ABSORBANT MATERIAL AND CONTACT A DISPOSAL COMPANY. IN ALL CASES, PACKAGE IN A DOT APPROVED CONTAINER. OBSERVE RECOMMENDED CONTROL MEASURES SHOWN IN SECTION 8 OF THE MSDS.

WASTE DISPOSAL METHOD

TRANSPORT IN DOT APPROVED CONTAINERS TO AN EPA APPROVED TREATMENT, STORAGE, AND DISPOSAL (TSD) FACILITY.

PROTECTIVE MEASURES FOR REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT

CLEAN THOROUGHLY AS APPROPRIATE TO SPECIFIC EQUIPMENT.

OBSERVE RECOMMENDED CONTROL MEASURES SHOWN IN SECTION 8 OF THE MSDS.

RECOMMENDED CONTROL MEASURES

SECTION 8

RESPIRATORY PROTECTION (Specify Type)	IF PUBLISHED EXPOSURE LIMIT IS EXCEEDED, USE NIOSH LISTED RESPIRATOR.
VENTILATION - LOCAL EXHAUST - MECHANICAL (General) - SPECIAL	FOLLOW ACGIH INDUSTRIAL VENTILATION RECOMMENDATIONS. RECOMMENDED. PROVIDE VENTILATION SUITABLE FOR TYPE OF BUILDING STRUCTURE AND WORK AREA. VENTILATE TO MAINTAIN EXPOSURE BELOW PUBLISHED EXPOSURE LIMIT.
PROTECTIVE GLOVES	USE IMPERVIOUS (RUBBER, NITRILE) GLOVES.
EYE PROTECTION	USE CHEMICAL GOGGLES OR FULL FACE SHIELD.
OTHER PROTECTIVE EQUIPMENT	CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE APRON OR CHEMICAL SUIT.

SPECIAL PRECAUTIONS

SECTION 9

PRECAUTIONS TO BE TAKEN IN HANDLING & STORING (Including appropriate hygenic practices)

USE CHEMICAL GOGGLES OR FULL FACE SHIELD. USE IMPERVIOUS (RUBBER, NITRILE) GLOVES. WEAR CLEAN CLOTHES. WHERE SPLASH CAN OCCUR, USE AN APRON. WASH HANDS BEFORE EATING OR SMOKING. STORE IN A DRY PLACE. 40 TO 100 DEGREES F PREFERRED. DO NOT STORE NEAR FOOD OR FEED. IF STORED BELOW TITER POINT, WARM AND MIX THOROUGHLY BEFORE USE. DO NOT CAUSE THIS PRODUCT TO FORM AN AEROSOL OR MIST.

TRANSPORTATION DATA

SECTION 10

Proper Shipping Name	OILS OTHER THAN PETROLEUM
DOT Classification	N. O. I.
DOT Labels	Not Applicable
DOT Marking	Not Applicable
DOT Placard	Not Applicable
UN Number	Not Applicable

PRECAUTIONARY LABELING

SECTION 11

WARNING!

MAY CAUSE SEVERE EYE IRRITATION. CAN CAUSE SKIN IRRITATION ON PROLONGED OR REPEATED CONTACT AVOID CONTACT WITH EYES, SKIN, CLOTHING.

DO NOT CAUSE THIS PRODUCT TO FORM MIST OR AEROSOL. SEE MSDS FOR FURTHER INFORMATION.

FOR INDUSTRIAL USE ONLY - KEEP OUT of the Reach of Children.

DO NOT RELY ON THE INFORMATION PRESENTED HERE AFTER DECEMBER 31, 1995

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

CAS #

SECTION I

MANUFACTURER'S NAME: Ideas Inc.	EMERGENCY TELEPHONE NO.: 312-766-2326
ADDRESS (Number, Street, City, State, and ZIP Code): P.O. Box 262, Wood Dale, Il. 60191	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS: Ida-Soil D-802E
CHEMICAL FAMILY: Hydrocarbon	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS		NA	BASE METAL		NA
CATALYST		NA	ALLOYS		NA
VEHICLE		NA	METALLIC COATINGS		NA
SOLVENTS		NA	FILLER METAL PLUS COATING OR CORE FLUX		NA
ADDITIVES		NA	OTHERS		
OTHERS		NA			

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
NA		

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	NA	SPECIFIC GRAVITY (H_2O=1)	.96
VAPOR PRESSURE (mm Hg.) Air = 1	1	PERCENT, VOLATILE BY VOLUME (%)	10%
VAPOR DENSITY (AIR=1)	1	EVAPORATION RATE (_____ =1)	1
SOLUBILITY IN WATER	Insoluble		
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) 105°F.	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: Foam, Powder, Mist			
SPECIAL FIRE FIGHTING PROCEDURES: Typical for Oil Products			
UNUSUAL FIRE AND EXPLOSION HAZARDS: None			

(Continued on reverse side)

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE	Not Determined
EFFECTS OF OVEREXPOSURE	Not Determined
EMERGENCY AND FIRST AID PROCEDURES	Typical for Oil

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	

INCOMPATABILITY *(Materials to avoid)*	Water
HAZARDOUS DECOMPOSITION PRODUCTS	NA

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Oil Dry, Soap & Water
WASTE DISPOSAL METHOD	NA

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*	NA		
VENTILATION	LOCAL EXHAUST	X	SPECIAL
	MECHANICAL *(General)*		OTHER
PROTECTIVE GLOVES	X	EYE PROTECTION	X
OTHER PROTECTIVE EQUIPMENT			

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	None
OTHER PRECAUTIONS	

GPO 934-110

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. LSB-OOS-4
May 1969

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: Ideas Inc.	EMERGENCY TELEPHONE NO.: 312-766-2326
ADDRESS (Number, Street, City, State, and ZIP Code): P.O. Box 262, Wood Dale, Illinois 60191	
CHEMICAL NAME AND SYNONYMS:	TRADE NAME AND SYNONYMS: Ida-Jac C-128
CHEMICAL FAMILY	FORMULA

SECTION II HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.)	Nil	SPECIFIC GRAVITY (H_2O=1) Typical	0.884
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____=1)	
SOLUBILITY IN WATER	Negligible		
APPEARANCE AND ODOR	Very viscous liquid, mineral oil odor, color - rSTM 1.0 Typical		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) rSTM D92 COC, Typical 300°F	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	Dry Chemical, CO_2 Foam		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARDS	Keep from heat and open flame		

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: 5 mg/M³

EFFECTS OF OVEREXPOSURE: This product is not generally considered toxic, contact may cause a minor irritation to sensitive skin. Avoid breathing mists.

EMERGENCY AND FIRST AID PROCEDURES

EXTERNAL - Wipe from exposed area, then wash with soap and water

INTERNAL - Do not induce vomiting, consult a physician

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID: Over - heating for extended periods will cause some
	STABLE	X	degradation of a non-hazardous nature.

INCOMPATABILITY (*Materials to avoid*)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Normal precautionary measures for handling lubricating oils are satisfactary. Remove sparks, flames and hot surfaces. Collect on absorbants.

WASTE DISPOSAL METHOD: Must be disposed of according to local, state and federal regulations.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (*Specify type*): Select according to American National Standard Practices for respiratory Protection Z88.2-1969

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (*General*)	OTHER

PROTECTIVE GLOVES: Oil resistant

EYE PROTECTION: Recommended

OTHER PROTECTIVE EQUIPMENT

SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Avoid temperatures above 140°F for prolonged periods. Avoid or contain oil mists.

OTHER PRECAUTIONS: Persons exposed to oil mists should wear approved respirators.

Form Approved
Budget Bureau No. 44-R1387
Approval Expires April 30, 1971

Form No. LSB-OOS-4
May 1969

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I

MANUFACTURER'S NAME: Ideas Inc.	EMERGENCY TELEPHONE NO.: (312) 766-2326
ADDRESS (Number, Street, City, State, and ZIP Code): P.O. Box 262, Wood Dale IL. 60191	
CHEMICAL NAME AND SYNONYMS: Oleic Acid (9-Octadecanoic Acid (cis)	TRADE NAME AND SYNONYMS: #105 Oleic Acid-Red Oil
CHEMICAL FAMILY: Aliphatic Organic Fatty Acid	FORMULA: $CH_3(CH_2)_7-CH-CH(CH_2)_7-C-O-H$

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III PHYSICAL DATA

BOILING POINT (°F.): 55@100mm Hg.		SPECIFIC GRAVITY (H_2O=1):	0.895
VAPOR PRESSURE (mm Hg.): 360°C@760 mm		PERCENT VOLATILE BY VOLUME (%):	0
VAPOR DENSITY (AIR=1)	9.50	EVAPORATION RATE (_____=1)	1
SOLUBILITY IN WATER: Negligible			
APPEARANCE AND ODOR: Yellow liquid with mild fatty odor			

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): AOCS Cc 9B c cup 403°F	FLAMMABLE LIMITS: Unknown	LEL	UEL
EXTINGUISHING MEDIA: CO2 or dry Chemical			
SPECIAL FIRE FIGHTING PROCEDURES: Non required-Usual fire fighting procedure for chemical plants.			
UNUSUAL FIRE AND EXPLOSION HAZARDS: It burns by itself if heated beyond its boiling point under atmospheric pressure.			

SECTION V HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

EFFECTS OF OVEREXPOSURE ~~Details Unknown~~ Details Unknown

EMERGENCY AND FIRST AID PROCEDURES Eyes-flush with water

SECTION VI REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID If heated beyond its boiling
	STABLE	X	for too long it can burn by itself

INCOMPATABILITY *(Materials to avoid)* None

HAZARDOUS DECOMPOSITION PRODUCTS When heated to high temperatures its vapors cause throat & eye irritation

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wipe up-When spilled it makes the area slippery, can spread sand & salts to correct this problem.

WASTE DISPOSAL METHOD

Normal procedure for fats & oils.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*

VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)* X	OTHER

PROTECTIVE GLOVES Rubber

EYE PROTECTION Safety glasses

OTHER PROTECTIVE EQUIPMENT None

SECTION IX SPECIAL PRECAUTIONS

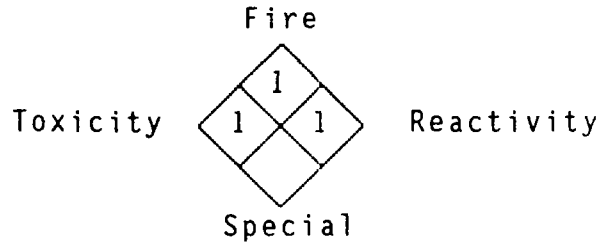
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING ~~Store in aluminum or stainless tanks or~~ in lined drums. Eye protection required when handling large quantity of this material

OTHER PRECAUTIONS ~~On a day to day basis do not allow material to~~ come in contact with skin for prolonged period.

WITCO MATERIAL SAFETY DATA SHEET

Product Code: 297 6585

HAZARD RATING
N 4 - Extreme
F 3 - High
P 2 - Moderate
A 1 - Slight
0 - Insignificant



DIVISION AND LOCATION---SECTION I

Division: ARGUS-PEARSALL PRODUCTS GROUP
Location: HOUSTON, TX
10500 RICHMOND,HOUSTON,TX,77042
Emergency Telephone Number: (201) 859-2222 (ask for H.J.Buser)
Transportation Emergency: CHEM TREC 1-(800) 424-9300 (U.S. and Canada)

CHEMICAL AND PHYSICAL PROPERTIES---SECTION II

Chemical Name:
chloro-sulfurized fatty ester
Formula: proprietary
Hazardous Decomposition Products:
Thermal decomposition may generate hydrogen sulfide (H2S), sulfur dioxide (SO2) or Hydrochloric acid (HCl).
Incompatibility (Keep away from):
strong acids
strong oxidizers such as hydrogen peroxide, bromine, and chromic acid.
Toxic and Hazardous Ingredients:
none
Form: liquid Odor: characteristic, slight sulfur
Appearance: dark viscous liquid Color: dark brown
Specific Gravity (water=1): 1
Boiling Point: no data available
Melting Point: not applicable
Solubility in Water (by weight %): negligible at 25°C
Volatile (by weight %): 0 at 25 °C
Evaporation Rate: essentially 0
Vapor Pressure (mm Hg at 20°C): negligible
Vapor Density (air=1): no data available
pH (as is): neutral
Stability: Product is stable under normal conditions
Viscosity SUS at 100°F: Greater than or = 100
Other physical properties:
8% sulfur; 8.5% chlorine 13,000 SUS (100°F); 1200 SUS (210°F)

(Continued on next page)

CAS # 61789-43-3

FIRE AND EXPLOSION DATA---SECTION III

Special Fire Fighting Procedures:
Treat as a grease fire. Firefighters must be equipped to prevent breathing toxic combustion products. Wear self contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:
In a fire, this product may build up pressure and break open its container. Spray drums to keep them cool.

Flashpoint: (Method Used) Cleveland open cup greater than 179°C (375°F)

Flammable limits %: no data available

Extinguishing agents:
Drychemical or Waterfog or CO_2 or Foam
Closed containers exposed to fire may be cooled with water.

HEALTH HAZARD DATA---SECTION IV

Permissible concentrations (air):
not applicable

Chronic effects of overexposure:
no data available

Acute toxicological properties:
no data available

Emergency First Aid Procedures:
Eyes: Flush with large amounts of water for at least 15 minutes. If irritation persists, call a physician.
Skin Contact: Wash with soap and water.
Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and call a physician
If Swallowed: Contact a physician immediately.

SPECIAL PROTECTION INFORMATION---SECTION V

Ventilation Type Required (Local,mechanical,special):
None unless overheated or working in mist.

Respiratory Protection (Specify type):
OSHA/NIOSH approved respirator when working in aerosol mist.

Protective Gloves:
neoprene or similar

Eye Prctection:
chemical safety goggles

Other Protective Equipment:
none

(Continued on next page)

HANDLING OF SPILLS OR LEAKS---SECTION VI

Procedures for Clean-Up:

Absorb with an inert material such as sand, soil or vermiculite; sweep up and dispose of in accordance with federal, state and local regulations.

Waste Disposal:

Dispose of in accordance with all applicable federal, state and local regulations.

SPECIAL PRECAUTIONS---SECTION VII

Precautions to be taken in handling and storage:

Store away from flames and extreme heat.

Maximum Storage Temperature: 54°C (130°F)

TRANSPORTATION DATA---SECTION VIII

D.O.T.: Not Regulated

Reportable Quantity: not applicable

Freight Classification: Petroleum Oil, n.o.i.b.n.

Special Transportation Notes:

COMMENTS---SECTION IX

Signature: H.J.Buser

Title: Quality Control Manager

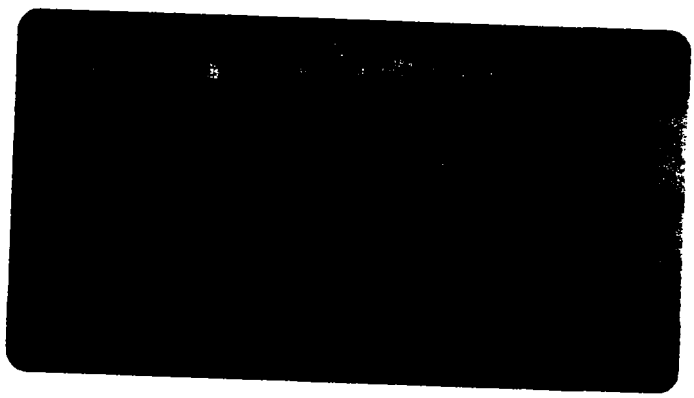
Original Date: 11/11/85 Sent to: _____

Revision Date: _____

Supersedes : _____

Date Sent : _____

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind, express or implied, and we assume no responsibility for any loss, damage, or expense, direct or consequential, arising out of their use.



EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 10/13/88
SUPERSEDES DATE: 03/02/88

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
150 SOL EXT BRIGHT STOCK

PRODUCT CODE
312507 - 02507

CHEMICAL NAME
Petroleum Lubricating Oil Base Stock

CAS NUMBER
64742-57-0 or
64742-62-7

PRODUCT APPEARANCE AND ODOR
Clear, dark brown liquid
Characteristic petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating Oil Base Stock	64742-57-0 or 64742-62-7	100%

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000
5 mg/m3 for oil mist or fumes (10 mg/m3 STEL)	Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)
5 mg/m3 for mist in air	Recommended by Exxon

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)
293°C (560°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 315°C (600°F)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS
Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)
Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY INFORMATION

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 371°C (700°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.90

MOLECULAR WEIGHT
Not Determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-7°C (19°F)
Pour Point by ASTM D 97

VISCOSITY
2,625 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUES:

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302 (CERCLA Section 102)
Not applicable

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
Not applicable

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Sections 311-313)
Not applicable

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

DOT IDENTIFICATION NUMBER
Not applicable

OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

(OSHA Hazard Warnings not applicable for this product; therefore, no OSHA warnings would appear on the label.)

Note: Product label will contain additional non-OSHA related information.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 10/17/88
SUPERSEDES DATE: 03/02/88

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
1200 COASTAL PALE

PRODUCT CODE
311518 - 01518

CHEMICAL NAME
Petroleum Lubricating Oil Base Stock

CAS NUMBER
64742-52-5

PRODUCT APPEARANCE AND ODOR
Clear, dark amber liquid
Mild medicinal odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Hydrotreated heavy naphthenic distillate, petroleum	64742-52-5	100%

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000
5 mg/m3 for oil mist or fumes (10 mg/m3 STEL)	Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)
5 mg/m3 for mist in air	Recommended by Exxon

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)
218°C (425°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 260°C (500°F)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS
Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)
Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY INFORMATION
In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE
None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 296°C (565°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.92

MOLECULAR WEIGHT
Not Determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-3°C (27°F)
Pour Point by ASTM D 97

VISCOSITY
1,225 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUES:

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302 (CERCLA Section 102)
Not applicable

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
Not applicable

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Sections 311-313)
Not applicable

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

DOT IDENTIFICATION NUMBER
Not applicable

OSHA REQUIRED LABEL INFORMATION
In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

(OSHA Hazard Warnings not applicable for this product; therefore, no OSHA warnings would appear on the label.)

Note: Product label will contain additional non-OSHA related information.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:
DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:
MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 10/17/88
SUPERSEDES DATE: 03/02/88

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
105 COASTAL PALE

PRODUCT CODE
311502 - 01502

CHEMICAL NAME
Petroleum Lubricating Oil Base Stock

CAS NUMBER
Complex Mixture
CAS Number not applicable

PRODUCT APPEARANCE AND ODOR
Clear liquid, light yellow color
Mild, bland petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Hydrotreated light naphthenic distillate petroleum	64742-53-6	Approximately 70%
Hydrotreated heavy naphthenic distillate, petroleum	64742-52-5	Approximately 30%

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000
5 mg/m3 for oil mist or fumes (10 mg/m3 STEL)	Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)
5 mg/m3 for mist in air	Recommended by Exxon

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)
157°C (315°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 260°C (500°F)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS
Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)
Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY INFORMATION
In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE
None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 241°C (465°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.89

MOLECULAR WEIGHT
Not Determined

pH
Essentially neutral

POUR CONGEALING OR MELTING POINT
-18°C (0°F)
Pour Point by ASTM D 97

VISCOSITY
108 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoic contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUES:

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302 (CERCLA Section 102)
Not applicable

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
Not applicable

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Sections 311-313)
Not applicable

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3

DOT IDENTIFICATION NUMBER
Not applicable

OSHA REQUIRED LABEL INFORMATION
In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

(OSHA Hazard Warnings not applicable for this product; therefore, no OSHA warnings would appear on the label.)

Note: Product label will contain additional non-OSHA related information.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:
DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:
MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 10/17/88
SUPERSEDES DATE: 03/02/88

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
100 LP SOLVENT NEUTRAL

PRODUCT CODE
311365 - 01365

CHEMICAL NAME
Petroleum Lubricating Oil Base Stock

CAS NUMBER
64742-54-7 or
64742-65-0

PRODUCT APPEARANCE AND ODOR
Clear liquid, light yellow color
Mild, bland petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating Oil Base Stock	64742-54-7 or 64742-65-0	100%

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000
5 mg/m3 for oil mist or fumes (10 mg/m3 STEL)	Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)
5 mg/m3 for mist in air	Recommended by Exxon

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION
If ingested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)
191°C (375°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 260°C (500°F)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS
Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)
Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY INFORMATION

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 271°C (520°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.86

MOLECULAR WEIGHT
Not Determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-18°C (0°F)
Pour Point by ASTM D 97

VISCOSITY
105 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUES:

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302 (CERCLA Section 102)
Not applicable

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
Not applicable

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Sections 311-313)
Not applicable

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

DOT IDENTIFICATION NUMBER
Not applicable

OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

(OSHA Hazard Warnings not applicable for this product; therefore, no OSHA warnings would appear on the label.)

Note: Product label will contain additional non-OSHA related information.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2449

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

EXXON COMPANY, U.S.A.
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 10/17/88
SUPERSEDES DATE: 03/02/88

MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME
600 SOLVENT NEUTRAL

PRODUCT CODE
311254 - 01254

CHEMICAL NAME
Petroleum Lubricating Oil Base Stock

CAS NUMBER
64742-54-7 or
64742-65-0

PRODUCT APPEARANCE AND ODOR
Clear, light amber liquid
Mild, bland petroleum odor

EMERGENCY TELEPHONE NUMBER
(713) 656-3424

B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Lubricating Oil Base Stock	64742-54-7 or 64742-65-0	100%

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist in air	OSHA Regulation 29 CFR 1910.1000
5 mg/m3 for oil mist or fumes (10 mg/m3 STEL)	Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)
5 mg/m3 for mist in air	Recommended by Exxon

C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT
If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN
In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

INHALATION
Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

IN TION
I gested, DO NOT induce vomiting; call a physician immediately.

D. FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM)
246°C (475°F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 260°C (500°F)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

E. HEALTH AND HAZARD INFORMATION

VARIABILITY AMONG INDIVIDUALS
Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)
Prolonged or repeated skin contact may cause skin irritation.

NATURE OF HAZARD AND TOXICITY INFORMATION

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None Recognized

F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 335°C (635°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6 C/15.6 C)
0.88

MOLECULAR WEIGHT
Not Determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-9°C (15°F)
Pour Point by ASTM D 97

VISCOSITY
580 SSU @ 100°F

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25 C (77 F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)
Negligible; less than 0.1%

G. REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

H. ENVIRONMENTAL INFORMATION

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUES:

REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302 (CERCLA Section 102)
Not applicable

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
Not applicable

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Sections 311-313)
Not applicable

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard	Chronic Hazard	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
						XXX

I. PROTECTION AND PRECAUTIONS

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

DOT IDENTIFICATION NUMBER
Not applicable

OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

(OSHA Hazard Warnings not applicable for this product; therefore, no OSHA warnings would appear on the label.)

Note: Product label will contain additional non-OSHA related information.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

DIRECTOR OF INDUSTRIAL HYGIENE
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 3157
HOUSTON, TX 77252-2180
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

MANAGER, MARKETING TECHNICAL SERVICES
EXXON COMPANY, U.S.A.
P. O. BOX 2180 ROOM 2355
HOUSTON, TX 77252-2180
(713) 656-5949

72-62-7820-01

MATERIAL SAFETY
DATA SHEET

Ashland Chemical Company
DIVISION OF ASHLAND OIL, INC.
P.O. BOX 2219 COLUMBUS, OHIO 43216 • (614) 889-3333
24 HOUR EMERGENCY TELEPHONE (606) 329-1130

SOLVENT 140-66

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: SOLVENT 140-66
CAS NUMBER: 64742-88-7

PREMIUM OIL
923 FAIRVIEW AT KILBURN AVE
ROCKFORD IL 61103

05 50 021 7007760-

PRODUCT: 2614000
INVOICE: 033407
INVOICE DATE: 01/13/89
TO: SAME

ATTN: PLANT MGR./SAFETY DIR.

Data Sheet No: 0014074-005
Prepared: 12/08/86
Supersedes: 03/04/86

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: ALIPHATIC HYDROCARBON

DOT Hazard Classification: COMBUSTIBLE (173.115)

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION.
SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
ALIPHATIC PETROLEUM DISTILLATES CAS #: 64742-88-7	100	500 PPM	100 PPM	(1)

Notes:

(1) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

SECTION III - PHYSICAL DATA

Boiling Point	for PRODUCT	355.00 Deg F (179.44 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	0.50 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density	AIR = 1	5.4
Specific Gravity		.770 @ 60.00 Deg F (15.55 Deg C)
Percent Volatiles		100.00%
Evaporation Rate	(ETHER = 1)	151.00

SECTION IV - FIRE AND EXPLOSION INFORMATION

FLASH POINT 140.0 Deg F (60.0 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 0 FLAMMABILITY- 2 REACTIVITY- 0

SECTION V - HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 500 PPM

THRESHOLD LIMIT VALUE 100 PPM

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS, AND EVEN DEATH.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

CONTINUED ON PAGE: 2

Ashland Chemical Company
DIVISION OF ASHLAND OIL, INC.
P O BOX 2219 COLUMBUS, OHIO 43216 • (614) 889 3333
24-HOUR EMERGENCY TELEPHONE (606) 324 1133

SECTION V HEALTH HAZARD DATA (Continued)

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING, KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

SECTION VI REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

WASTE DISPOSAL METHOD:

SMALL SPILL: ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY LIQUID INCINERATION.

CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS. (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED.SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

72-62-7820-01

MATERIAL SAFETY
DATA SHEET

Ashland Chemical Company
DIVISION OF ASHLAND OIL, INC
P. O. BOX 2219 COLUMBUS, OHIO 43216 • (614) 889-3333
24-HOUR EMERGENCY TELEPHONE (606) 324-1133

Ashland

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.

72-62-7820-01

MATERIAL SAFETY
DATA SHEET

Ashland Chemical Company
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24-HOUR EMERGENCY TELEPHONE (606) 324-1133

001507

MINERAL SEAL OIL

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: MINERAL SEAL OIL
CAS NUMBER: 64742-30-9

Data Sheet No: 0000592-006
Prepared: 05/24/88
Supersedes: 11/17/87

PREMIUM OIL
923 FAIRVIEW AT KILBURN AVE
ROCKFORD IL 61103

05 50 021 7007760-

PRODUCT: 2524000
INVOICE: 071847
INVOICE DATE: 01/31/89
TO: SAME

ATTN: PLANT MGR./SAFETY DIR.

SECTION I: PRODUCT IDENTIFICATION

General or Generic ID: ALIPHATIC HYDROCARBON

DOT Hazard Classification: NOT APPLICABLE

SECTION II: COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION.
SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
ALIPHATIC PETROLEUM DISTILLATES CAS #: 64742-30-9	>95	5 MG/M3	5 MG/M3	

SECTION III: PHYSICAL DATA

Boiling Point	for PRODUCT	390.00 - 520.00 Deg F (198.88 - 271.11 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	< 0.01 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density		HEAVIER THAN AIR
Specific Gravity		.840 - .816 @ 60.00 Deg F (15.55 Deg C)
Percent Volatiles	NOT APPLICABLE	
Evaporation Rate	(N-BUTYL ACETATE = 1)	< .01

SECTION IV: FIRE AND EXPLOSION INFORMATION

FLASH POINT(COC) 240.0 - 275.0 Deg F (115.6 - 135.0 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - .9%

EXTINGUISHING MEDIA: REGULAR FOAM OR WATER FOG OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

NFPA CODES: HEALTH- 0 FLAMMABILITY- 2 REACTIVITY- 0

SECTION V: HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 5 MG/M3

THRESHOLD LIMIT VALUE 5 MG/M3

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - MAY CAUSE IRRITATION.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.
BREATHING - OF MIST CAN CAUSE IRRITATION OF NASAL AND RESPIRATORY PASSAGES.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING, KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

CONTINUED ON PAGE: 2

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SECTION V: HEALTH HAZARD DATA (Continued)

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

SKIN CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE: FOR PRODUCT

THIS PRODUCT IS A PARAFFINIC PETROLEUM OIL SIMILAR IN NATURE TO THE MINERAL SEAL OIL WHICH EXXON COMPANY REPORTED TO THE EPA UNDER SECTION 8(E) OF THE TOXIC SUBSTANCE CONTROL ACT. THE REPORT WAS SUBMITTED BASED ON AN ONGOING MOUSE SKIN PAINTING STUDY WHICH SHOWED 8 OF AN ORIGINAL 50 ANIMALS DEVELOPED OBSERVABLE SKIN TUMORS.

SECTION VI: REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS.

SECTION VII: SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII: PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, POLYETHYLENE

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX: SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED.SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

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DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.

72-62-7820-01

MATERIAL SAFETY DATA SHEET

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002466

MINERAL SPIRITS 66 CHI 50-50

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: MINERAL SPIRITS 66 CHI 50-50

Data Sheet No: 0202476-001
Prepared: 04/13/87
Supersedes: (N/A)

PREMIUM OIL
923 FAIRVIEW AT KILBURN AVE
ROCKFORD IL 61103

05 50 021 7007760-

PRODUCT: 2514000
INVOICE: 013779
INVOICE DATE: 01/05/89
TO: SAME

ATTN: PLANT MGR./SAFETY DIR.

SECTION I-PRODUCT IDENTIFICATION

General or Generic ID: SOLVENT BLEND

DOT Hazard Classification: COMBUSTIBLE (173.115)

SECTION II-COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by VOL)	PEL	TLV	Note
ALIPHATIC PETROLEUM DISTILLATES CAS #: 8052-41-3	30-60	500 PPM	100 PPM	(1)
ALIPHATIC PETROLEUM DISTILLATES CAS #: 8052-41-3	50	500 PPM	100 PPM	(2)

Notes:

(1) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

(2) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

THIS COMPONENT MAY CONTAIN 3.5% PSEUDOCUMENE(1,2,4 OR 1,2,5-TRIMETHYLBENZENE) CAS# 95-63-6 AND 0.4% MESITYLENE(1,3,5-TRIMETHYLBENZENE) CAS# 108-67-8. 1,2,4-TRIMETHYLBENZENE IS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III.

SECTION III-PHYSICAL DATA

Boiling Point	for COMPONENT(30-60%)	300.00 Deg F (148.88 Deg C) @ 760.00 mm Hg
Vapor Pressure	for COMPONENT(30-60%)	2.00 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density		HEAVIER THAN AIR
Specific Gravity		LESS THAN WATER
Percent Volatiles		100.00%
Evaporation Rate		SLOWER THAN ETHER

SECTION IV-FIRE AND EXPLOSION INFORMATION

FLASH POINT(TCC) 100.0 - 200.0 Deg F (37.8 - 93.3 Deg C)

EXPLOSIVE LIMIT (LOWEST VALUE OF COMPONENT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

SECTION V-HEALTH HAZARD DATA

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.

CONTINUED ON PAGE: 2

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SECTION V-HEALTH HAZARD DATA (Continued)

BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS, AND EVEN DEATH.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING, KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE: FOR PRODUCT

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS:, CENTRAL NERVOUS SYSTEM EFFECTS

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS.

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED.SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

72-62-7820-01

MATERIAL SAFETY
DATA SHEET

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DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.

72-62-7920-01

MATERIAL SAFETY DATA SHEET

Ashland Chemical Company
DIVISION OF ASHLAND OIL, INC.
P. O. BOX 2219, COLUMBUS, OHIO 43216 • (614) 889-3333
24-HOUR EMERGENCY TELEPHONE (606) 324-1133

Ashland

000085

XYLENE 5' AROMATIC SOLVENT

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: XYLENE 5' AROMATIC SOLVENT
CAS NUMBER: 1330-20-7

PREMIUM OIL
ATTN: DICK FEDELI
923 FAIRVIEW AT KILBURN AVE
ROCKFORD, IL 61103

05 88 052 6160345-030

PRODUCT:
INVOICE: REQST
INVOICE DATE: 05/26/88
TO:

Data Sheet No: 0004340-004
Prepared: 08/01/86
Supersedes: 03/04/86

SECTION I—PRODUCT IDENTIFICATION

General or Generic ID: AROMATIC HYDROCARBON

DOT Hazard Classification: FLAMMABLE LIQUID (173.115)

SECTION II—COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS ARE IDENTIFIED IN THIS SECTION
SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
XYLENE CAS #: 1330-20-7	100	100 PPM	100 PPM	(1)

Notes:

(1) TECHNICAL GRADE XYLENE CONTAINS 18-20% ETHYL BENZENE. ETHYL BENZENE HAS A PEL OF 100 PPM AND A TLV OF 100 PPM (125 PPM - STEL).

ACGIH - SHORT TERM EXPOSURE LIMIT (STEL) FOR XYLENE IS 150 PPM. NIOSH RECOMMENDS A LIMIT OF 100 PPM, 8-HOUR TWA; 200 PPM 10 MINUTE CEILING.

SECTION III—PHYSICAL DATA

Boiling Point	for PRODUCT	279.00 Deg F (137.22 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	5.10 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density	AIR = 1	3.6
Specific Gravity		.872 @ 60.00 Deg F (15.55 Deg C)
Percent Volatiles		100.00%
Evaporation Rate	(ETHYL ETHER = 1)	.10

SECTION IV—FIRE AND EXPLOSION INFORMATION

FLASH POINT 80.0 Deg F (26.7 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR MAY BE MOVED BY VENTILATION AND IGNITED BY PILOT LIGHTS, OTHER FLAMES, SPARKS, HEATERS, SMOKING, ELECTRIC MOTORS, STATIC DISCHARGE, OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

NFPA CODES: HEALTH- 2 FLAMMABILITY- 3 REACTIVITY- 0

SECTION V—HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 100 PPM

THRESHOLD LIMIT VALUE 100 PPM

EFFECTS OF ACUTE OVEREXPOSURE: FOR PRODUCT

EYES - CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, BLURRED VISION.
SKIN - PROLONGED OR REPEATED CONTACT CAN CAUSE MODERATE IRRITATION, DEFATTING, DERMATITIS.

CONTINUED ON PAGE: 2

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SECTION V-HEALTH HAZARD DATA (Continued)

BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS, AND EVEN DEATH.

SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

FIRST AID:

IF ON SKIN: THOROUGHLY WASH EXPOSED AREA WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING. LAUNDER CONTAMINATED CLOTHING BEFORE RE-USE.

IF IN EYES: FLUSH WITH LARGE AMOUNTS OF WATER, LIFTING UPPER AND LOWER LIDS OCCASIONALLY, GET MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING, KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE: FOR PRODUCT

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS APPARENTLY BEEN FOUND TO CAUSE THE FOLLOWING EFFECTS IN LABORATORY ANIMALS:, ANEMIA, LIVER ABNORMALITIES, KIDNEY DAMAGE, EYE DAMAGE

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS:, CARDIAC ABNORMALITY

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS.

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON PAPER, VERMICULITE, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND TRANSFER TO HOOD.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE, DIKE AREA OF SPILL TO PREVENT SPREADING, PUMP LIQUID TO SALVAGE TANK. REMAINING LIQUID MAY BE TAKEN UP ON SAND, CLAY, EARTH, FLOOR ABSORBENT, OR OTHER ABSORBENT MATERIAL AND SHOVELED INTO CONTAINERS.

WASTE DISPOSAL METHOD:

SMALL SPILL: ALLOW VOLATILE PORTION TO EVAPORATE IN HOOD. ALLOW SUFFICIENT TIME FOR VAPORS TO COMPLETELY CLEAR HOOD DUCT WORK. DISPOSE OF REMAINING MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY LIQUID INCINERATION.

CONTAMINATED ABSORBENT MAY BE DEPOSITED IN A LANDFILL IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES SUCH AS:, NITRILE RUBBER

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED.SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

72-62-7920-01

MATERIAL SAFETY DATA SHEET

Ashland Chemical Company
DIVISION OF ASHLAND OIL, INC.
P O BOX 2219 COLUMBUS, OHIO 43216 • (614) 889-3333
24-HOUR EMERGENCY TELEPHONE (606) 324-1133

Ashland®

DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G - Occupational Health and Environmental Control, and subpart I - Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional information may be found in Section V. Other components may be listed if deemed appropriate.

Identities of components listed generically are declared trade secret.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELs) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If Specific Vapor Density of product is not known, the value is expressed as lighter or heavier than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH: If applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowest value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums, pails, etc.). Refer to Sections IV and IX.

THE LUBRIZOL CORPORATION
29400 Lakeland Boulevard
Wickliffe, Ohio 44092
216/943-4200

MATERIAL SAFETY DATA SHEET

Product Trade Name: Lubrizol 5034
Revision Date: 11/18/88
Transportation Emergency Phone Number (CHEMTREC): (800) 424-9300
ical Name: The Specific chemical name and percent composition of the components not disclosed are trade secrets.
NFPA CODE: Health: 2 Fire: 1 Reactivity: 0

SECTION 1 - HAZARDOUS INGREDIENTS

ab - This material is not known to contain any chemical listed as a carcinogen or suspected carcinogen by OSHA, IARC or the National Toxicology Program (NTP) at a concentration greater than 0.1%.
- Toluene, PEL 200 ppm

SECTION 2 - FIRE AND EXPLOSION HAZARDS

FLASH POINT:	102 C (PMCC)
UPPER FLAMMABLE LIMIT:	Not Determined
LOWER FLAMMABLE LIMIT:	Not Determined
EXTINGUISHING MEDIA:	CO 2 , dry chemical, foam, water spray, water fog
SPECIAL FIREFIGHTING PROCEDURES:	Wear self-contained breathing apparatus with full face piece.

UNUSUAL FIRE & EXPLOSION HAZARDS:
Toxic fumes may be evolved on burning or exposure to heat.

SECTION 3 - HEALTH HAZARD DATA

ORAL TOXICITY:	Greater than 5000 mg./Kg. in rats. Based on data from components.
EYE IRRITATION:	Not expected to cause eye irritation. Based on data from components.
SKIN IRRITATION:	Not expected to cause skin irritation. Based on data from components.
OTHER:	Unknown
TLV:	None established. Oil mist = 5 mg./cu.meter

********** Emergency First Aid Procedures **********

SKIN:	Wash with soap and water.
EYES:	Flush with water for 15 minutes.
INHALATION:	Remove to fresh air. If unconscious, call physician and apply artificial respiration.
ORAL:	Call a physician. Do not induce vomiting.
ADDDITIONAL:	None

SECTION 4 - SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE:	Mechanical ventilation recommended
GLOVE PROTECTION:	Neoprene or nitrile rubber gloves recommended
EYE PROTECTION:	Safety Glasses
OTHER PROTECTION:	Wear NIOSH approved organic vapor respirator if TLV exceeded.

SECTION 5 - PHYSICAL DATA

VAPOR PRESSURE:	Not Determined
PH FACTOR:	Not Determined
SPECIFIC GRAVITY:	1.00 @ 15.6 C
WATER SOLUBILITY:	Insoluble
PERCENT VOLATILE:	Not Determined
VAPOR DENSITY:	Not Determined
EVAPORATION RATE:	Not Determined
ODOR:	Pungent
APPEARANCE:	Light Colored Liquid

SECTION 6 - STABILITY

STABILITY:	Stable
INCOMPATIBILITY:	Oxidizing agents
POLYMERIZATION:	Will not occur
THERMAL DECOMPOSITION:	Oxides of carbon, sulfur, nitrogen, phosphorus and hydrogen sulfide.

SECTION 7 - SPILL OR LEAK PROCEDURES

SPILL PROCEDURES:	Ventilate area. Prevent entry into sewers and waterways. Pick up free liquid for recycle/disposal. Absorb small amounts on inert material for disposal.
WASTE DISPOSAL:	If disposed of, this material is believed to be non-hazardous. Disposal should be in compliance with federal, state and local laws.

SECTION 8 - SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS:	Keep containers closed when not in use. Avoid inhalation of fumes upon opening container. Remove contaminated clothing and launder before reuse.

SECTION 9 - TRANSPORTATION AND LABELING

DOT PROPER SHIPPING NAME:	Not Applicable
DOT HAZARD CLASS:	Not Applicable
DOT ID NUMBER (UN NO):	None
IMO CLASS:	None
ICAO CLASS:	None
EPA HAZARDOUS SUBSTANCES:	Toluene (0.7%)
PRECAUTIONARY LABELS:	None

U. S. TSCA INVENTORY:	All components are included on the U.S. TSCA Inventory.
EEC EINECS:	All components are in compliance with the EEC Sixth Amendment Directive 79/831.
JAPAN MITI:	All components have MITI and MOL numbers in Japan.
	All components are in compliance in Australia.
SARA SECTION 313 STATUS:	This material is not known to contain any chemicals on the SARA Section 313 list at a concentration greater than 1.0% or any carcinogenic chemical on that list at a concentration greater than 0.1%.

THE LUBRIZOL CORPORATION
29400 Lakeland Boulevard
Wickliffe, Ohio 44092
216/943-4200

MATERIAL SAFETY DATA SHEET

PRODUCT TRADE NAME: Lubrizol 5982
REVISION DATE: 11/05/84
TRANSPORTATION EMERGENCY PH NO (CHEMTREC): (800) 424-9300
CHEMICAL NAME: CONFIDENTIAL
NFPA CODE: Health: 2 Fire: 1 Reactivity: 0

SECTION 1 - HAZARDOUS INGREDIENTS

- Please note that the Ethyl Corp. has reported to the U.S. EPA that, in preliminary tests, certain zinc dialkyldithiophosphates, when applied to the skin of male rabbits over a period of time, adversely affected spermatogenic activity.

SECTION 2 - FIRE AND EXPLOSION HAZARDS

FLASH POINT:	188°C (COC)
UPPER FLAMMABLE LIMIT:	Not Determined
LOWER FLAMMABLE LIMIT:	Not Determined
EXTINGUISHING MEDIA:	CO_2, dry chemical, foam
SPECIAL FIREFIGHTING PROCEDURES:	None
UNUSUAL FIRE & EXPLOSION HAZARDS:	None

SECTION 3 - HEALTH HAZARD DATA

ORAL TOXICITY:	Greater than 5000 mg./Kg. in rats. Based on actual data.
EYE IRRITATION:	Eye irritant. Based on actual data.
SKIN IRRITATION:	Not expected to cause skin irritation. Based on actual data.
OTHER:	Unknown
TLV:	None established. Oil mist = 5 mg./cu.meter

Emergency First Aid Procedures

SKIN:	Wash with soap and water.
EYE:	Flush immediately with water for at least 15 minutes. See a physician.
INHALATION:	Remove to fresh air. See physician if irritation persists.
ORAL:	Call a physician. Do not induce vomiting.
ADDITIONAL:	None

SECTION 4 - SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE:	Mechanical ventilation recommended
GLOVES PROTECTION:	Neoprene or nitrile rubber gloves recommended
EYE PROTECTION:	Chemical Splash Goggles
OTHER PROTECTION:	None

SECTION 5 - PHYSICAL DATA

VAPOR PRESSURE:	Not Determined
SPECIFIC GRAVITY:	1.045 @ 15.6°C
WATER SOLUBILITY:	Insoluble
PERCENT VOLATILE:	Not Determined
VAPOR DENSITY:	Not Determined
EVAPORATION RATE:	Not Determined
ODOR:	Mild
APPEARANCE:	Dark Colored Liquid

SECTION 6 - STABILITY

STABILITY:	Stable
INCOMPATIBILITY:	Oxidizing agents
POLYMERIZATION:	Will not occur
THERMAL DECOMPOSITION:	Oxides of carbon, nitrogen, sulfur, phosphorus, barium and zinc.

SECTION 7 - SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: Wear chemical splash goggles.
Prevent entry into sewers and waterways. Pick up free liquid for recycle/disposal. Absorb small amounts on inert material for disposal.

WASTE DISPOSAL: If disposed of, this material may be hazardous for disposal under RCRA due to EP toxicity. Disposal should be in compliance with federal, state and local laws.
If disposed of, this material may be hazardous for disposal under RCRA due to reactivity. Disposal should be in compliance with federal, state and local laws.

SECTION 8 - SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS: Remove contaminated clothing and launder before reuse.
Do not apply steam or other heat sources at temperatures above 250°F (121°C).

SECTION 9 - TRANSPORTATION AND LABELING

DOT PROPER SHIPPING NAME:	Not Applicable
DOT HAZARD CLASS:	Not Applicable
DOT ID NUMBER (UN NO.):	None
IMO CLASS:	None
ICAO CLASS:	None
EPA HAZARDOUS SUBSTANCES:	None
PRECAUTIONARY LABELS:	Irritant (Eyes)

U.S. TSCA INVENTORY:	All components are included on the U.S. TSCA Inventory.
EEC EINECS:	Not Determined
JAPAN MITI:	Not Determined